



BEC 6300VNL

GigaConnect[®] 4G/LTE VoIP Wireless Broadband Router

User Manual

Version release: v1.09

Last revised: Sept, 2015

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION	1
INTRODUCTION TO YOUR ROUTER	1
FEATURES & SPECIFICATIONS	1
HARDWARE SPECIFICATIONS	1
APPLICATION DIAGRAMS	1
CHAPTER 2: PRODUCT OVERVIEW	2
IMPORTANT NOTE FOR USING THIS ROUTER	2
DEVICE DESCRIPTION	3
Front Panel LEDs.....	3
Rear Panel Connectors	5
POWER SOURCE	6
SYSTEM RECOVERY PROCEDURES	8
CABLING	9
CHAPTER 3: BASIC INSTALLATION	10
NETWORK CONFIGURATION – IPv4	11
Configuring PC in Windows 10 (IPv4)	11
Configuring PC in Windows 7/8 (IPv4).....	13
Configuring PC in Windows Vista (IPv4)	15
Configuring PC in Windows XP (IPv4)	17
NETWORK CONFIGURATION – IPv6	18
Configuring PC in Windows 10 (IPv6)	18
Configuring PC in Windows 7/8 (IPv6).....	20
Configuring PC in Windows Vista (IPv6)	22
Configuring PC in Windows XP (IPv6)	24
DEFAULT SETTINGS.....	25
INFORMATION FROM YOUR ISP	26

CHAPTER 4: DEVICE CONFIGURATION.....27

LOGIN TO YOUR DEVICE 27

STATUS..... 29

Device Info	30
System Status	32
System Log	32
3G/4G-LTE Status.....	33
Statistics	34
DHCP Table.....	39
Disk Status.....	39
VoIP Status	40

QUICK START 41

CONFIGURATION..... 44

Interface Setup.....	44
<i>Internet</i>	45
<i>LAN</i>	54
<i>Wireless</i>	58
<i>Wireless MAC Filter</i>	69
Advanced Setup	70
<i>Firewall</i>	70
<i>Routing</i>	71
<i>NAT</i>	72
<i>Static DNS</i>	77
<i>QoS</i>	78
<i>Interface Grouping</i>	79
<i>Time Schedule</i>	81
VoIP	82
<i>Basic</i>	82
<i>Media</i>	84
<i>Advanced</i>	85
<i>Speed Dial</i>	86
<i>Dial Plan</i>	87
<i>Call Features</i>	90
<i>NAT Traversal for VoIP</i>	93
Access Management	95
<i>Device Management</i>	95
<i>SNMP</i>	96
<i>Remote Syslog</i>	97
<i>Universal Plug & Play</i>	97

<i>Dynamic DNS</i>	98
<i>Access Control</i>	100
<i>Packet Filter</i>	102
<i>CWMP (TR-069)</i>	105
<i>Parental Control</i>	107
<i>SAMBA & FTP Server</i>	108
Maintenance	111
<i>User Management</i>	111
<i>Time Zone</i>	115
<i>Firmware & Configuration</i>	116
<i>System Restart</i>	117
<i>Diagnostics Tool</i>	118

CHAPTER 5: TROUBLESHOOTING 120

Problems with the Router	120
Problem with LAN Interface	120
Recovery Procedures.....	121

APPENDIX: PRODUCT SUPPORT & CONTACT 122

CHAPTER 1: INTRODUCTION

Introduction to your Router

Congratulations on your purchase of the **BEC 6300VNL (4G/LTE VoIP Wireless Broadband Router)**. This router is a compact and advanced broadband router that offers flexible and multiple Internet connection options, EWAN and embedded 4G/LTE interfaces, for home, SOHO, and office users to enjoy high-speed, high-level security Internet connection via cellular wireless and/or Ethernet WAN. With an integrated 802.11n wireless access point and 4-port Gigabit Ethernet LAN, this router enables faster wireless speed of up to 300Mbps and LAN connection 10 times faster than regular 10/100Mbps Ethernet LAN. **BEC 6300VNL (4G/LTE VoIP Wireless Broadband Router)** provides a unique Management Center enabling users to monitor 4G/LTE signal strength, bandwidth, download speed, and many more. Users can choose the most economical rate of VoIP calls provided by different providers. The device integrates two FXS ports which allows for simultaneous VoIP calls.

Cost Saving

Making VoIP calls is extremely simple; just connect the router with your existing analog telephones. **BEC 6300VNL (4G/LTE VoIP Wireless Broadband Router)** complies with the most popularly adopted VoIP standard and SIP protocol to ensure interoperability with SIP devices and major VoIP Gateways. This router also supports a wider range of telephony features, such as Call Waiting, Conference, Speed Dial, Return Call, Redial, etc.

4G/LTE Mobility

With 4G/LTE-based Internet connection (4G/LTE embedded module, requires an additional SIM card), you can access to the Internet through 4G/LTE whether you are seated at your desk or taking a cross-country trip.

Wireless Mobility and Security

With an integrated 802.11n Wireless Access Point, this router delivers up to 3 times the wireless coverage of a 802.11b/g network device, so that wireless access is available everywhere in the house or office. If your network requires wider coverage, the built-in Wireless Distribution System (WDS) allows you to expand your wireless network without additional wires or cables. **BEC 6300VNL (4G/LTE VoIP Wireless Broadband Router)** also supports the Wi-Fi Protected Setup (WPS) standard and allows users to establish a secure wireless network just by pressing a button. Multiple SSIDs allow users to access different networks through a single access point. Network managers can assign different policies and functions for each SSID, increasing the flexibility and efficiency of the network infrastructure.

4G/LTE Management Center

BEC 6300VNL (4G/LTE VoIP Wireless Broadband Router) Mobile Management Center visually displays its current 4G/LTE signal status also calculates the total amount of hours or data traffic used per month, allowing you to manage your 4G/LTE monthly subscriptions.

IPv6 Supported

Internet Protocol version 6 (IPv6) is a version of the Internet Protocol that is designed to succeed IPv4. IPv6 has a vastly larger address space than IPv4. The router is already supporting IPv6, you can use it in IPv6 environment no need to change device. The dual-stack protocol implementation in an operating system is a fundamental IPv4-to-IPv6 transition technology. It implements IPv4 and IPv6 protocol stacks either independently or in a hybrid form. The hybrid form is commonly implemented in modern operating systems supporting IPv6.

Quick Start Wizard

Support a WEB GUI page to install this device quickly. With this wizard, simple steps will get you connected to the Internet immediately.

Firmware Upgradeable

Device can be upgraded to the latest firmware through the WEB based GUI.

Features & Specifications

- 4G/LTE for high speed mobile broadband connectivity
- Gigabit Ethernet WAN (GbE WAN) for Cable/Fiber/xDSL high WAN throughput
- Gigabit Ethernet LAN
- IPv6 ready (IPv4/IPv6 dual stack)
- Multiple wireless SSIDs with wireless guest access and client isolation
- IEEE 802.11 b/g/n compliant Wireless Access Point with Wi-Fi Protected Setup (WPS)
- Wi-Fi Protected Access (WPA-PSK/ WPA2-PSK) and Wired Equivalent Privacy (WEP)
- SOHO Firewall Security with DoS Preventing and Packet Filtering
- Quality of Service Control for traffic prioritization management
- Universal Plug and Play (UPnP) Compliance
- Voice over IP compliant with SIP standard
- Two FXS ports for connecting to regular analog telephones
- Call Waiting, Conference Call
- Speed Dial, Return Call, Redial
- Don't Disturb
- Ease of Use with Quick Installation Wizard
- One USB port for NAS (FTP/ SAMBA server)
- Ideal for SOHO, office, and home users

Network Protocols and Features

- IPv4, IPv6 or IPv4 / IPv6 Dual Stack
- NAT, static (v4/v6) routing and RIP-1 / 2
- DHCPv4 / v6
- Universal Plug and Play (UPnP) Compliant
- Dynamic Domain Name System (DDNS)
- Virtual Server and DMZ
- SNTP, DNS proxy
- IGMP snooping and IGMP proxy
- MLD snooping and MLD proxy

Firewall

- Built-in NAT Firewall
- Stateful Packet Inspection (SPI)
- DoS attack prevention including Land Attack, Ping of Death, etc.
- Access control
- IP&MAC filter, URL Content Filter
- Password protection for system management
- VPN pass-through

Quality of Service Control

- Traffic prioritization management based-on Protocol, Port Number and IP Address (IPv4/ IPv6)

Wireless LAN

- Compliant with IEEE 802.11 b/ g/ n standards
- 2.4 GHz - 2.484GHz radio band for wireless
- Up to 300 Mbps wireless operation rate
- 64 / 128 bits WEP supported for encryption
- WPS (Wi-Fi Protected Setup) for easy setup
- Wireless Security with WPA-PSK / WPA2-PSK support
- WDS repeater function support

USB Application Server

- Storage/NAS: SAMBA Server, FTP Server
- 3G/4G LTE Mobile Internet Connection

VoIP

- Compliant with SIP standard (RFC3261)
- Codec: G.729, G.726, G.711 A-Law, G.711 u-Law
- DTMF Method: Inband, RFC 2833, SIP Info
- Caller ID Generation: DTMF, FSK
- Silence Suppression (VAD), Echo Cancellation
- Call Waiting, Conference Call
- Speed Dial, Return Call, Redial
- Don't Disturb

- FAX Relay: T.38
- Call Detailed Records (CDR)

Management

- Quick Installation wizard
- Web-based GUI for remote and local management (IPv4/IPv6)
- Firmware upgrades and configuration data upload and download via web-based GUI
- Supports DHCP server / client / relay
- Supports SNMP v1, v2, v3, MIB-I and MIB-II
- TR-069 supports remote management

Hardware Specifications

Physical interface

- 4G LTE antenna: 2 external antennas
- SIM card slot: Mini SIM card (2FF) slot for mobile broadband connectivity
- VoIP phone port: 2 RJ-11 FXS phone ports to connect with 2 regular analog phones.
- USB: USB 2.0 port for storage service
- Ethernet: 4-port 10 / 100 / 1000Mbps auto-crossover (MDI / MDI-X) Switch
- EWAN: RJ-45 Gigabit Ethernet port for connecting to Cable/Fiber/xDSL modem for Broadband connectivity.
- Factory default reset button
- Wireless on/off and WPS push button
- DC Power jack
- UPS Power with 4-pin connectors
- Power switch to switch between DC power and UPS power.

Physical Specifications

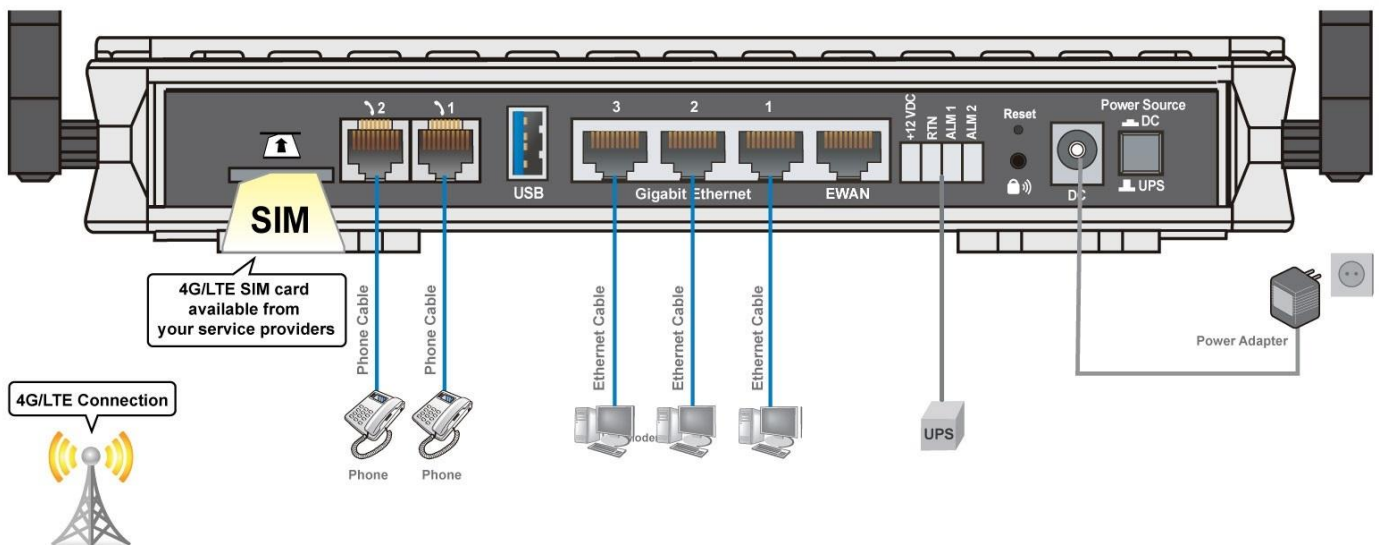
- Dimensions (W*H*D): 9.04" x 6.10" x 1.27"(229.5mm x 155mm x 32.24mm)

Application Diagrams

BEC 6300VNL (4G/LTE VoIP Wireless Broadband Router) is an all-in-one router, supporting 2 connection options (4/LTE and EWAN) to connect to the Internet.

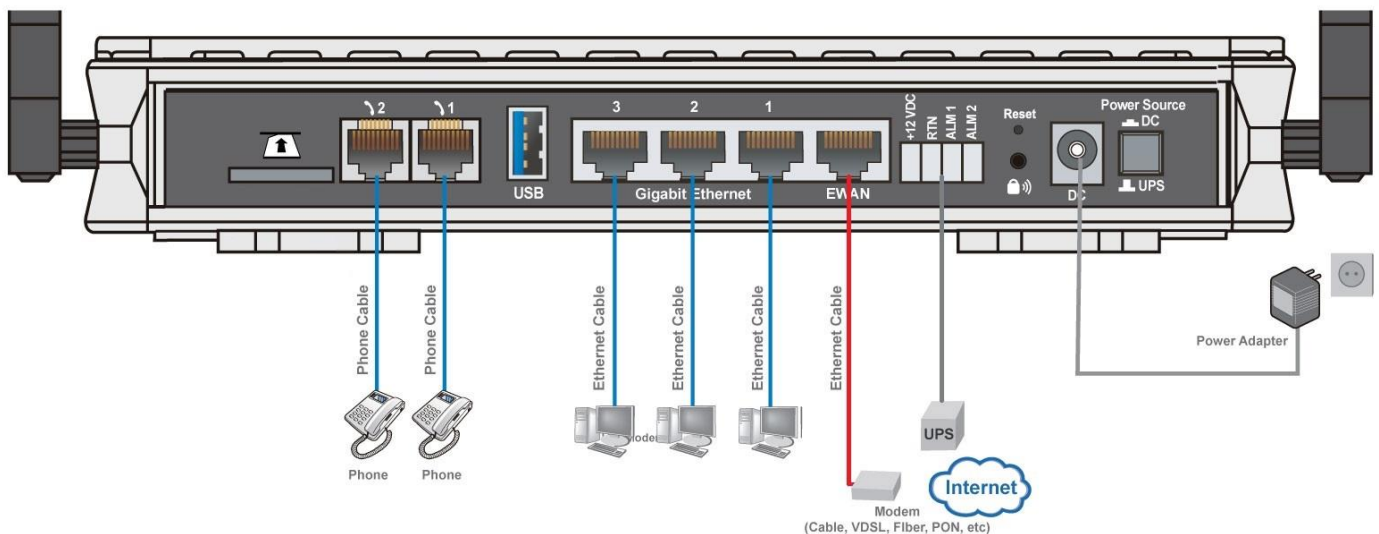
4G/LTE router mode

With an embedded 4G/LTE module, the router can be used to connect to high speed mobile fixed wireless connection.



Broadband Router Mode

This router also has a Gigabits Ethernet WAN port (EWAN) to connect with your Fiber / Cable/ xDSL modem.



CHAPTER 2: PRODUCT OVERVIEW

Important Note for Using This Router



Warning

- ✓ Do not use the router in high humidity or high temperature.
- ✓ Do not use the same power source for the BEC 6300VNL on other equipment.
- ✓ Do not open or repair the case yourself. If the device becomes too hot, turn off the power immediately and have it repaired at a qualified service center.
- ✓ Avoid using this product and all accessories outdoors.

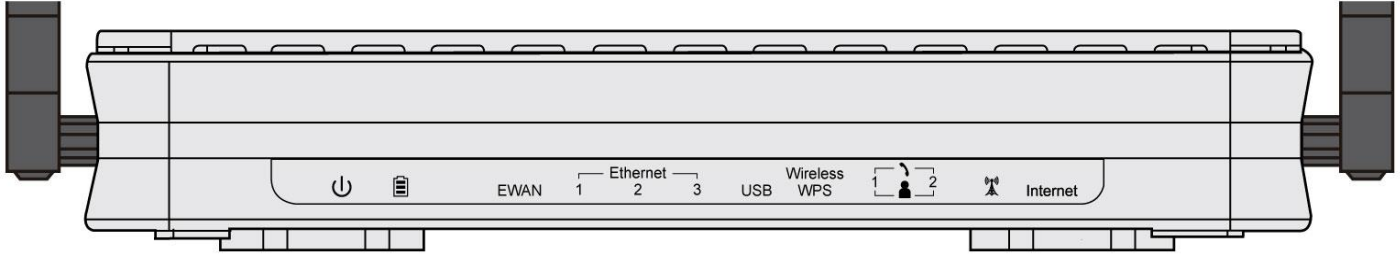






Attention

- ✓ Place the router on a stable surface.
- ✓ Only use the power adapter that comes with the package. Using a different voltage rating power adaptor may damage the router.

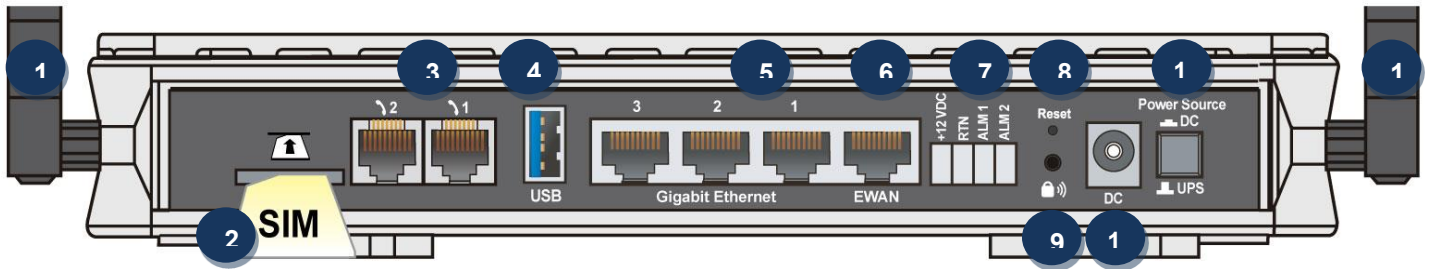
Device Description



Front Panel LEDs



LED	STATUS	DESCRIPTION
Power 	Green	System is up and ready
	Red	Boot failure
Battery 	Green	UPS is functional properly
	Orange	UPS battery failure. Need a new battery replacement
	Orange blinking	UPS AC power failure and battery functional properly
	Off	Device powered by the DC power adaptor
EWAN	Lit up	BEC 6300VNL is successfully connected with a broadband connection device.
	Green	Transmission speed is at Gigabit speed (1000Mbps)
	Orange	Transmission speed is at 10/100Mbps
	Blinking	Data being transmitted/received
Ethernet Port LAN 1 ~ 3	Green	Transmission speed is at Gigabit speed (1000Mbps)
	Orange	Transmission speed is at 10/100Mbps
	Blinking	Data being transmitted/received
USB 2.0	Green	Connecting to a USB dongle or a hard drive.
Wireless/WPS	Green	Wireless connection established
	Green blinking	Data being transmitted / received
	Orange	WPS configuration is in progress
Phone 	Green	Successfully registered and ready to be used.
	Orange	Phone is off-hook, in-use
LTE (Received Signal Strength Indicator) 	Green	RSSI greater than -69 dBm. Excellent signal condition
	Green Flashing quickly	RSSI from -81 to -69 dBm. Good signal condition
	Orange Flashing quickly	RSSI from -99 to -81 dBm. Fair signal condition.
	Orange Flashing slowly	RSSI less than -99 dBm. Poor signal condition.
	Orange	No signal and the 4G_LTE module is in service
	Off	No LTE module or LTE module fails
Internet	Green	IP connected and traffic is passing thru the device.
	Red	IP request failed.
	Off	BEC 6300VNL is either in bridged mode or WAN connection not ready.

Rear Panel Connectors

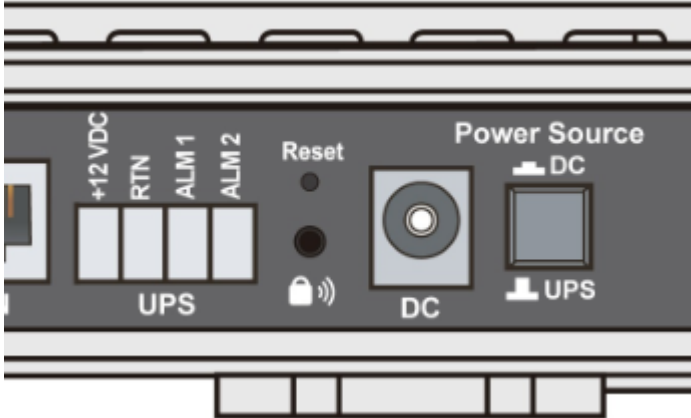


PORT		MEANING
1	LTE Antenna	Screw the supplied LTE antennas onto the antenna connectors on both sides.
2 	SIM Card Slot	Insert the mini SIM card (2FF) with the gold contact facing down. Push the mini SIM card (2FF) inwards to eject it
3	Phone (1X-2X)	Connect your analog phone to this port with a RJ-11 cable.
4	USB	The USB can either setup for 3G/4G LTE internet access or storage/file sharing. (1) For File Sharing: Connect an external USB dongle / hard drive for storage, network sharing, etc. (2) For 3G/4G LTE Internet Connection: Connect with an external USB 3G/4G LTE modem or dongle with an activate data plan (Internet access).
5	Gigabit LAN Ethernet (1~3)	Connect a UTP Ethernet cable (Cat-5 or Cat-5e) to one of the four LAN ports when connecting to a PC or an office/home network of 10Mbps /100Mbps /1000Mbps
6	Gigabit EWAN	Connect to Fiber/ Cable/ xDSL Modem with a RJ-45 cable
7	UPS Jack	The 4-pin connectors are used to power the device with an external UPS battery backup.
8	Reset	After the device is powered on, press it 6 seconds or above : to restore to factory default settings (this is used when you cannot login to the router, e.g. forgot your password)
9 	WPS & Wireless On/Off	By controlling the pressing time, users can achieve two different effects: (1) WPS* : Press &hold the button for less than 6 seconds to trigger WPS function. (2) Wireless ON/OFF button : Press & hold the button for more than 6 seconds to On/Off the wireless. * Please refer to the WPS section in the User Manual.
10	Power Jack (DC)	Connect the supplied Power Adapter to this jack.
11	Power Source	Power ON/OFF switch (1) with Power Switch ON : power up by the supplied DC power adaptor (2) with Power Switch OFF : power up by the UPS battery unit

Power Source

BEC 6300VNL offers two kinds of power input, namely, **DC power Adapter** and **DC UPS** (or BBU).

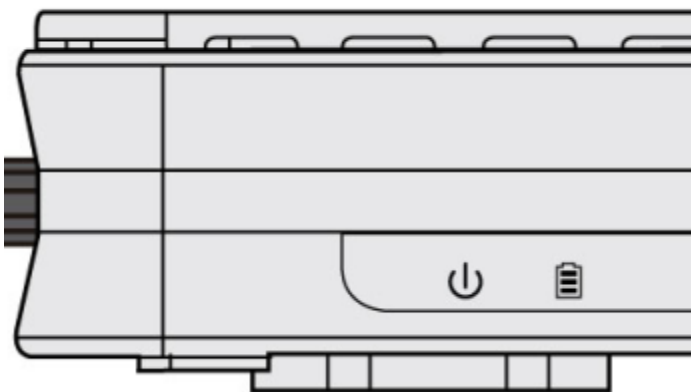
BEC 6300VNL can take the advantage of UPS (Uninterruptible Power Supply) to keep working even if the power outage hit your router when the router is working in DC UPS mode.



(A picture of the rear focusing on the power source)

UPS Port Assignment:

- ▶ +12VDC: VCC (DC + 12V) Power supply
- ▶ RTN: GND (Ground)
- ▶ ALM 1: Active high – replace battery
- ▶ ALM 2: Active high – on battery



(A shot from the front panel, with second icon being identified as the **Battery** LED)

How to switch between the two (2) power sources, DC power adaptor and external UPS battery

Pressed "Power Source" button, the button is visually being pressed down. The power source is from the DC power adaptor supplied in the package.

"Power Source" button in the un-pressed state, the power source is from the UPS. The router can continue to operate for a period of time after AC power failure, due to uninterrupted power system features of UPS.

UPS LED:

A Battery LED indicates if a DC UPS is in-use or not. When the router is operating via the DC power adapter this LED will be off.

Battery LED Definition:

- ▶ Green LED: UPS AC power is working; UPS battery is also working well
- ▶ Orange LED Only UPS AC power is working. Battery failure- need a new battery replacement
- ▶ Orange LED: UPS AC power failure; UPS battery is working

System Recovery Procedures

The purpose is to allow users to restore the MX-1000 to its initial stage when the device is outage, upgraded to a wrong / broken firmware, cannot access to the GUI with wrong username and/or password, etc.

Step 1 – Configure your PC Network IP Address

Before performing the system recovery, assign this IP address and Netmask to your PC, **192.168.1.100** and **255.255.255.0** respectively.

Step 2 – Reset your 6300VNL Device

- 2.1 Power off your 6300VNL
- 2.2 Power on the 6300VNL while pushing the RESET button with a small pointed object (such as paper clip, needle, toothpick, and etc.).
- 2.3 When the POWER LED turns RED, keep holding and pushing the RESET button until the INTERNET LED flashes in GREEN

Step 3 – Restore your 6300VNL Device

With INTERNET light flashes green, 6300VNL is in recovery mode and ready for a new Firmware.

- 3.1 Open a web browser and type the IP address, **192.168.1.1**, to access to the recovery page.
NOTE: In the recovery mode, 6300VNL will not respond to any PING or other requests.
- 3.2 Browse to the new Firmware image file then click Upload to start the upgrade process.
- 3.3 INTERNET LED turns red means the Firmware upgrade is in process.
DO NOT power off or reboot the device, it would permanently damage your 6300VNL.
- 3.4 INTERNET LED turns green after the Firmware upgrade completed
- 3.5 Power cycle on & off to regain access to the 6300VNL.

Cabling

One of the most common causes of problems is bad cabling. Make sure that all connected devices are turned on. On the front panel of the product is a bank of LEDs. Verify that the LAN Link and LEDs are lit. If they are not, verify that you are using the proper cables.

Make sure that all other devices (e.g. telephones, fax machines, analogue modems) connected to the same telephone line as your BEC router have a line filter connected between them and the wall socket (unless you are using a Central Splitter or Central Filter installed by a qualified and licensed electrician), and that all line filters are correctly installed in a right way. If the line filter is not correctly installed and connected, it may cause problems to your connection or may result in frequent disconnections.

CHAPTER 3: BASIC INSTALLATION

The router can be configured with your web browser. A web browser is included as a standard application in the following operating systems: Windows XP / 7 / 8 / Vista, Linux, Mac OS, etc. The product provides an easy and user-friendly interface for configuration.

PCs must have an Ethernet interface installed properly and be connected to the router either directly or through an external repeater hub, and have TCP/IP installed or configured to obtain an IP address through a DHCP server or a fixed IP address that must be in the same subnet as the router. The default IP address of the router is **192.168.1.254** and the subnet mask is **255.255.255.0** (i.e. any attached PC must be in the same subnet, and have an IP address in the range of 192.168.1.1 to 192.168.1.253). The best and easiest way is to configure the PC to get an IP address automatically from the router using DHCP. If you encounter any problems accessing the router's web interface it may also be advisable to **uninstall** any kind of software firewall on your PCs, as they can cause problems accessing the 192.168.1.254 IP address of the router. Users should make their own decisions on how to best protect their network.




Please follow the steps below for your PC's network environment installation. First of all, please check your PC's network components. The TCP/IP protocol stack and Ethernet network adapter must be installed. If not, please refer to your Windows-related or other operating system manuals.



Any TCP/IP capable workstation can be used to communicate with or through the **BEC 6300VNL**. To configure other types of workstations, please consult the manufacturer's documentation.

Network Configuration – IPv4

Configuring PC in Windows 10 (IPv4)

1. Click .
2. Click  Settings.
3. Then click on **Network and Internet**.

4. Under **Related settings**, select **Network and Sharing Center**
5. When the **Network and Sharing Center** window pops up, select and click on **Change adapter settings** on the left window panel.
6. Select the **Local Area Connection**, and right click the icon to select **Properties**.

Related settings

Change adapter options

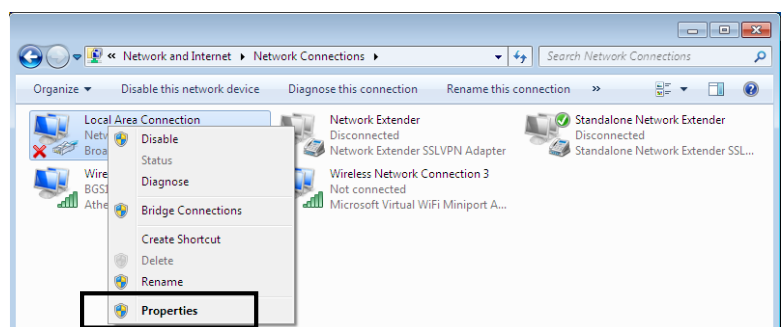
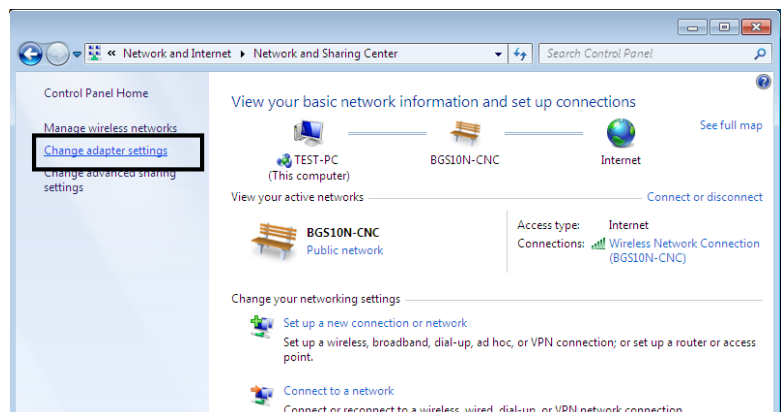
Change advanced sharing options

Network and Sharing Center

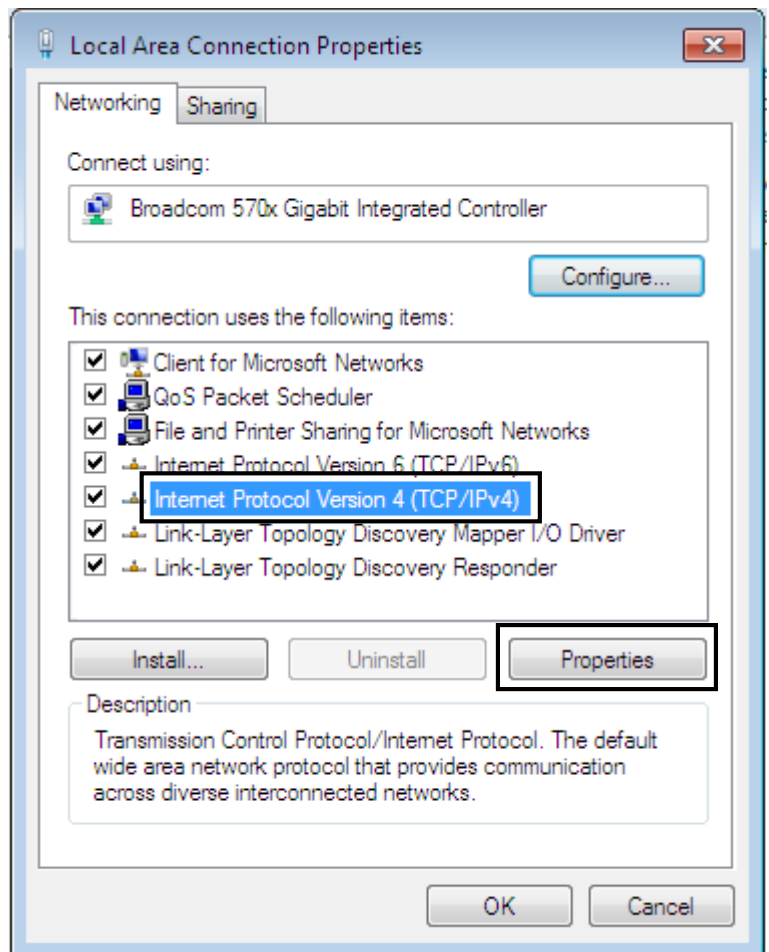
HomeGroup

Internet options

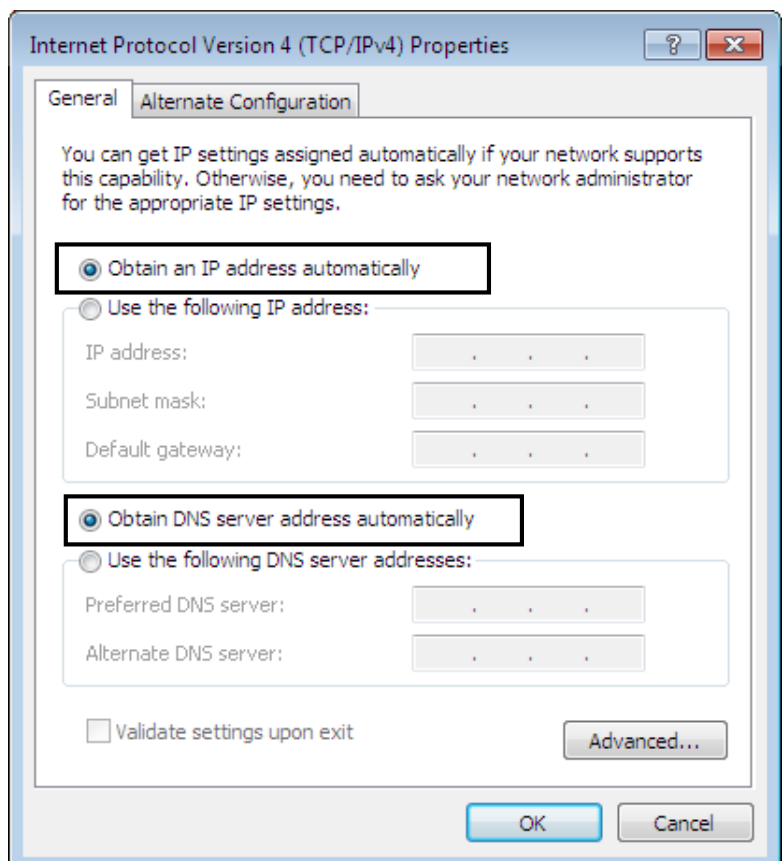
Windows Firewall



7. Select **Internet Protocol Version 4 (TCP/IPv4)** then click **Properties**.

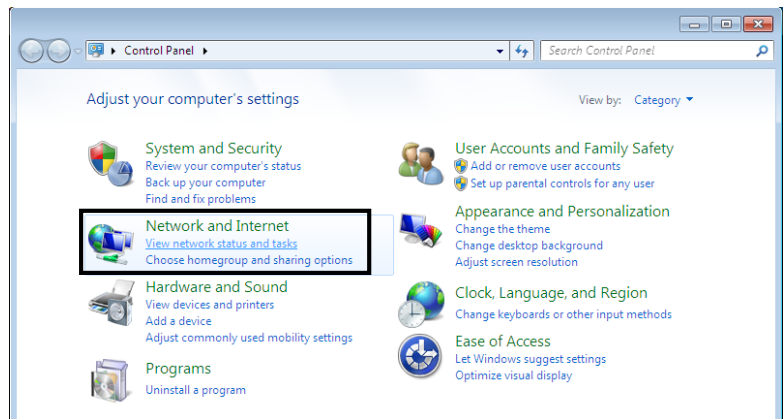


8. In the **TCP/IPv4 properties** window, select the **Obtain an IP address automatically** and **Obtain DNS Server address automatically** radio buttons. Then click **OK** to exit the setting.
9. Click **OK** again in the **Local Area Connection Properties** window to apply the new configuration.

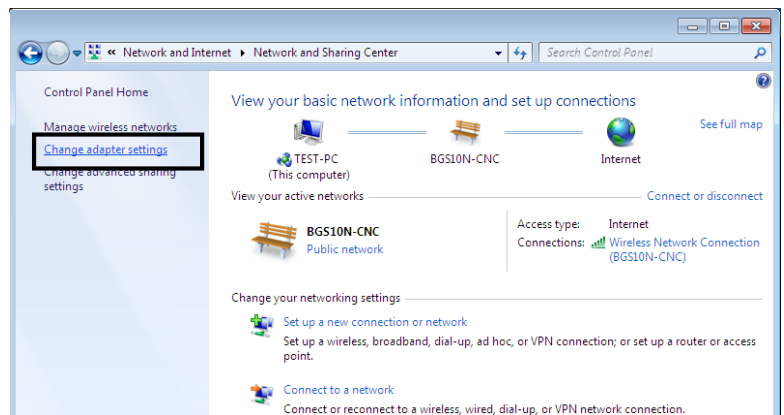


Configuring PC in Windows 7/8 (IPv4)

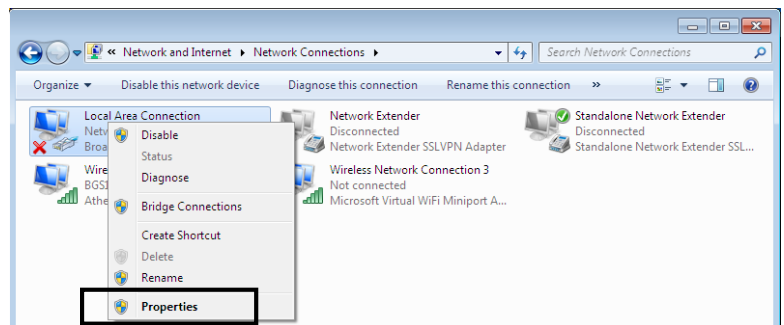
1. Go to **Start**. Click on **Control Panel**.
2. Then click on **Network and Internet**.



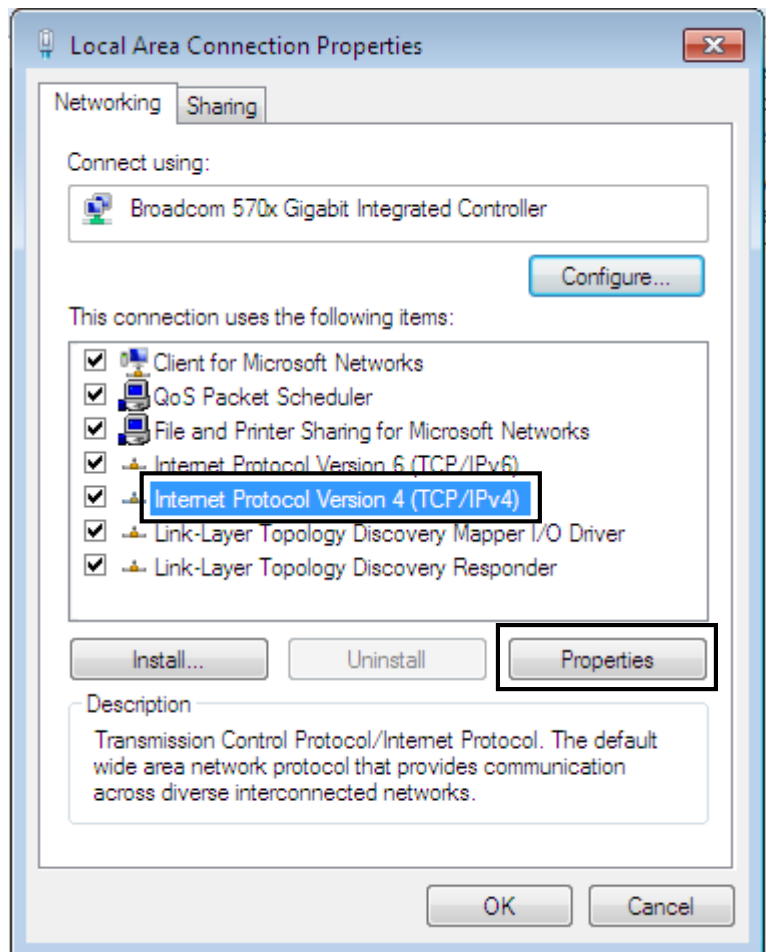
3. When the **Network and Sharing Center** window pops up, select and click on **Change adapter settings** on the left window panel.



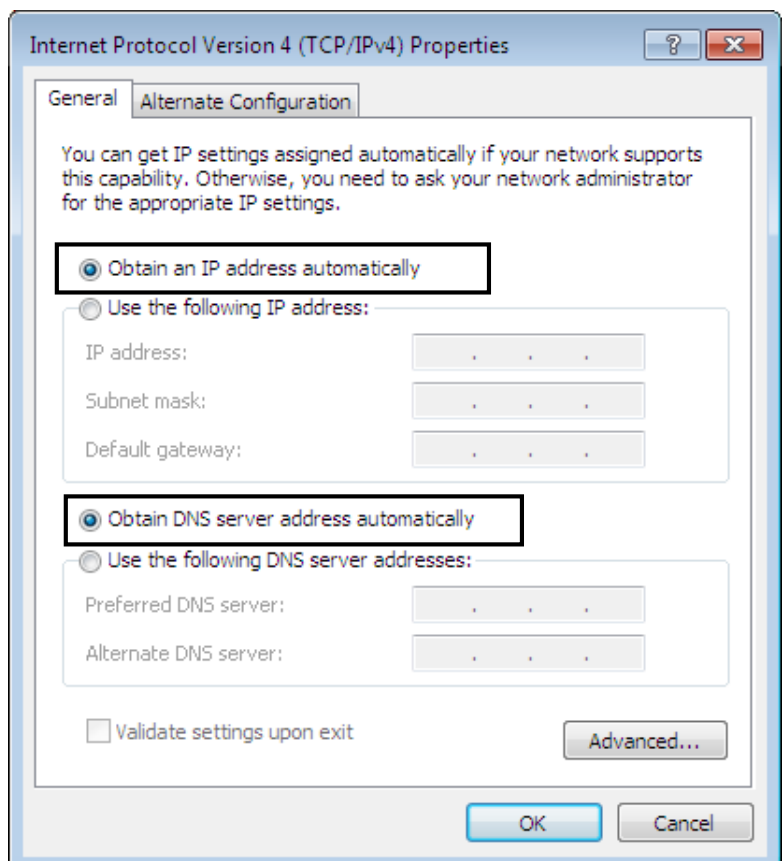
4. Select the **Local Area Connection**, and right click the icon to select **Properties**.



5. Select **Internet Protocol Version 4 (TCP/IPv4)** then click **Properties**.

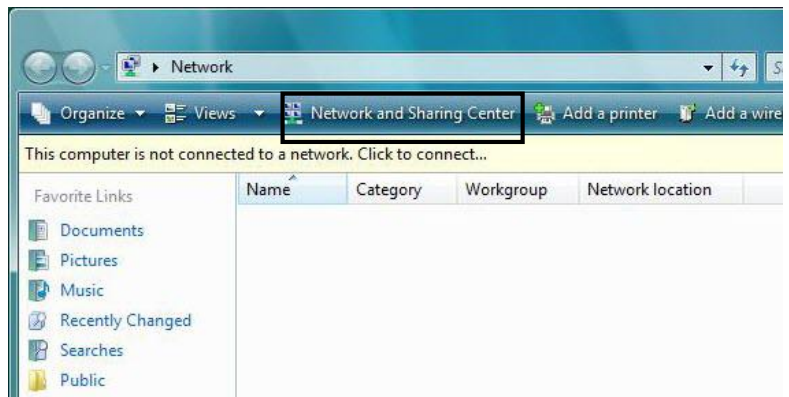


6. In the **TCP/IPv4 properties** window, select the **Obtain an IP address automatically** and **Obtain DNS Server address automatically** radio buttons. Then click **OK** to exit the setting.
7. Click **OK** again in the **Local Area Connection Properties** window to apply the new configuration.



Configuring PC in Windows Vista (IPv4)

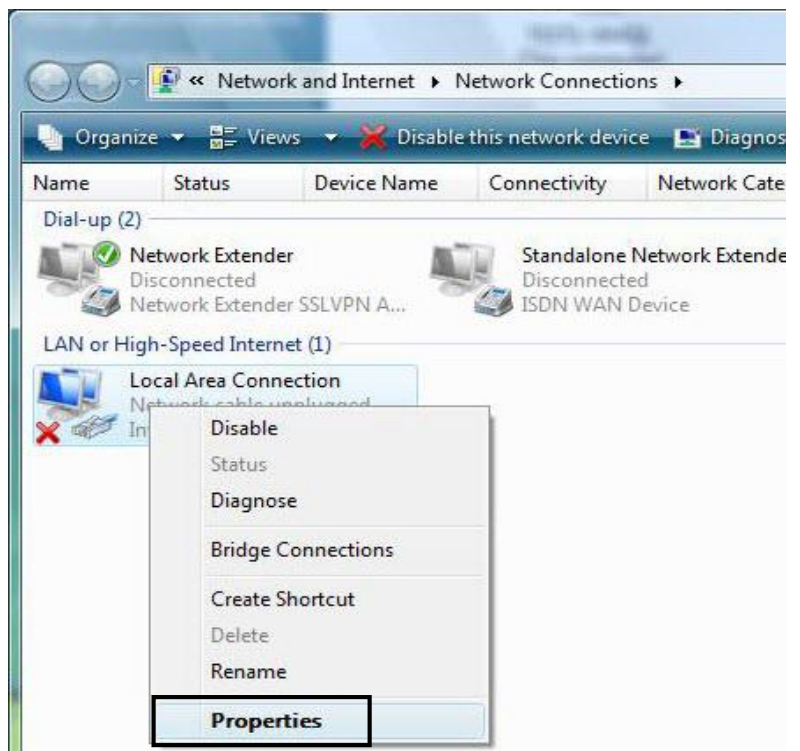
1. Go to **Start**. Click on **Network**.
2. Then click on **Network and Sharing Center** at the top bar.



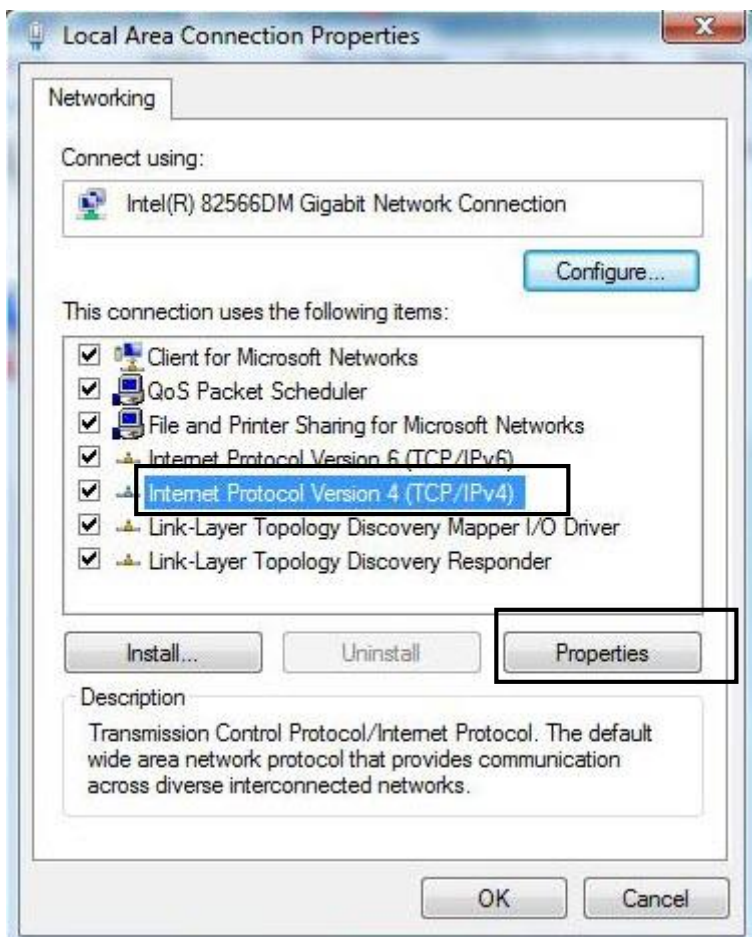
3. When the **Network and Sharing Center** window pops up, select and click on **Manage network connections** on the left window pane.



4. Select the **Local Area Connection**, and right click the icon to select **Properties**.

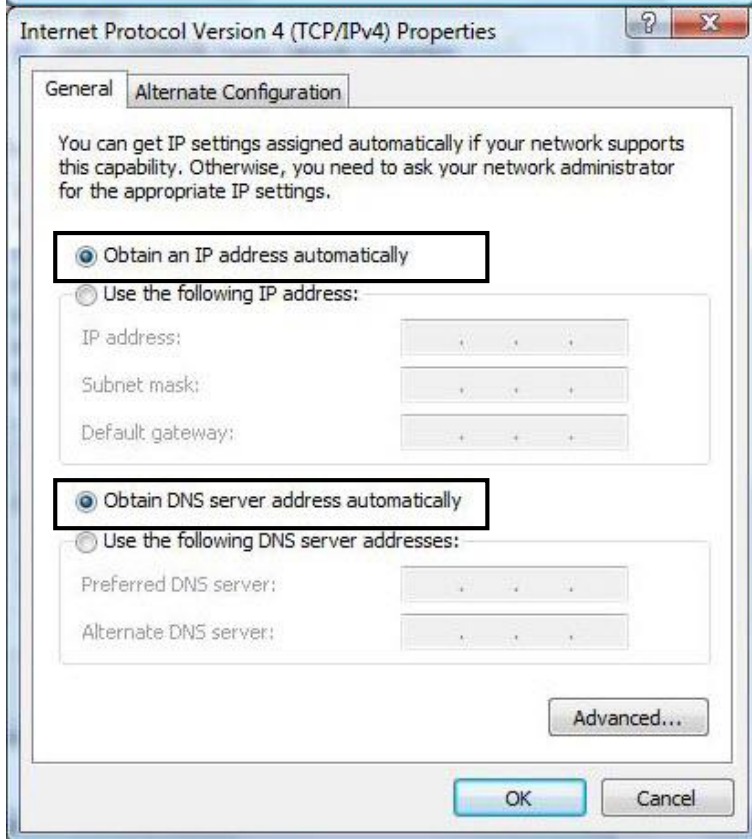


5. Select **Internet Protocol Version 4 (TCP/IPv4)** then click **Properties**.



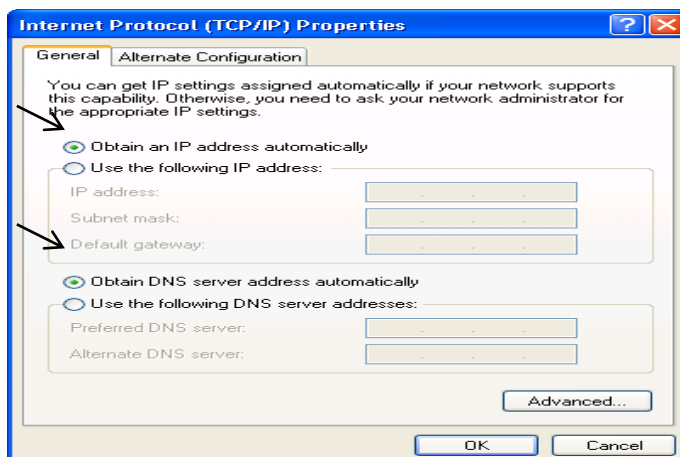
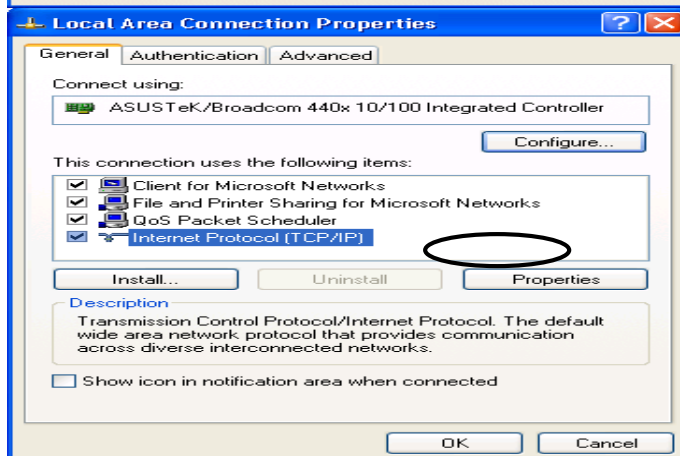
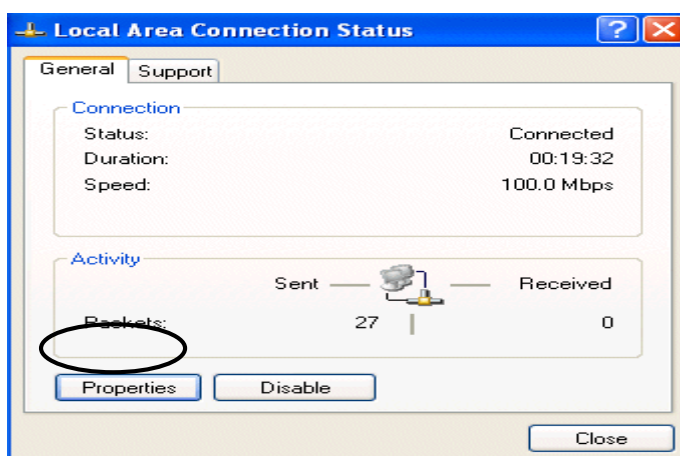
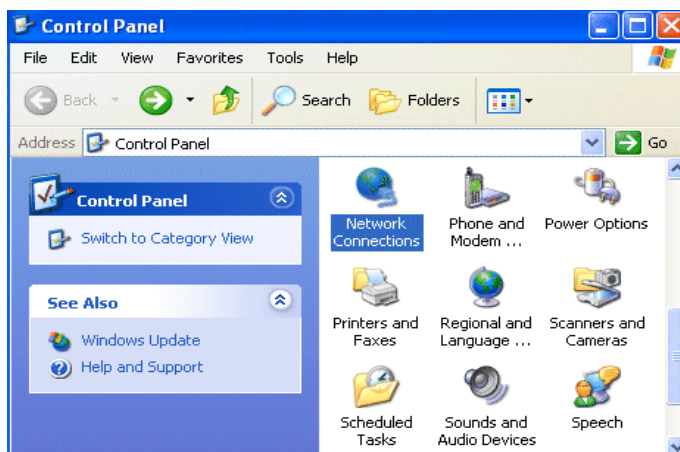
6. In the **TCP/IPv4 properties** window, select the **Obtain an IP address automatically** and **Obtain DNS Server address automatically** radio buttons. Then click **OK** to exit the setting.

7. Click **OK** again in the **Local Area Connection Properties** window to apply the new configuration.






Configuring PC in Windows XP (IPv4)

1. Go to **Start**. Click on **Control Panel**.
2. Then click on **Network and Internet**.
3. In the **Local Area Connection Status** window, click **Properties**.
4. Select **Internet Protocol (TCP/IP)** and click **Properties**.
5. Select the **Obtain an IP address automatically** and the **Obtain DNS server address automatically** radio buttons.
6. Click **OK** to finish the configuration.



Network Configuration – IPv6

Configuring PC in Windows 10 (IPv6)

1. Click .
2. Click  Settings.
3. Then click on **Network and Internet**.

4. Under **Related settings**, select **Network and Sharing Center**
5. When the **Network and Sharing Center** window pops up, select and click on **Change adapter settings** on the left window panel.
6. Select the **Local Area Connection**, and right click the icon to select **Properties**.

Related settings

Change adapter options

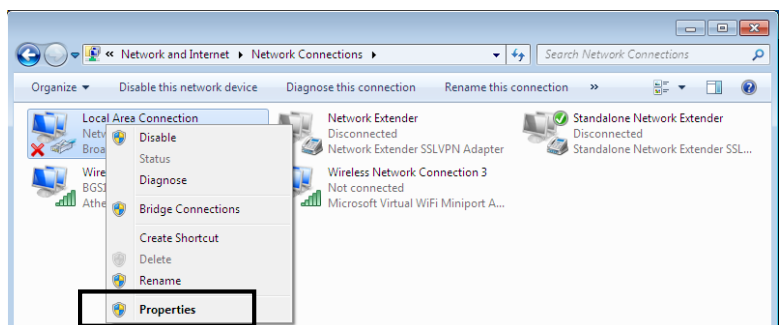
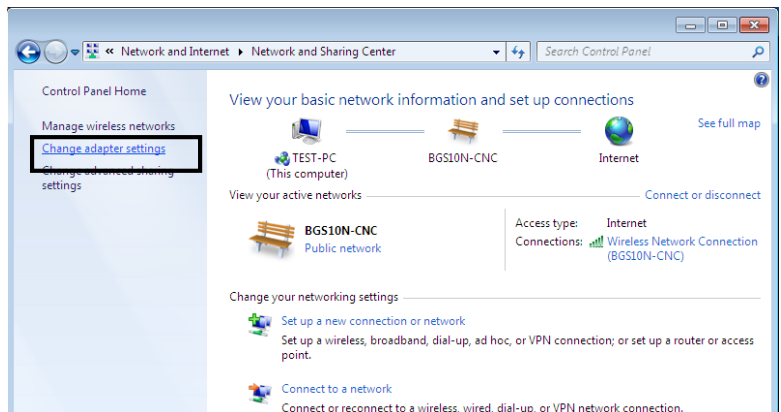
Change advanced sharing options

Network and Sharing Center

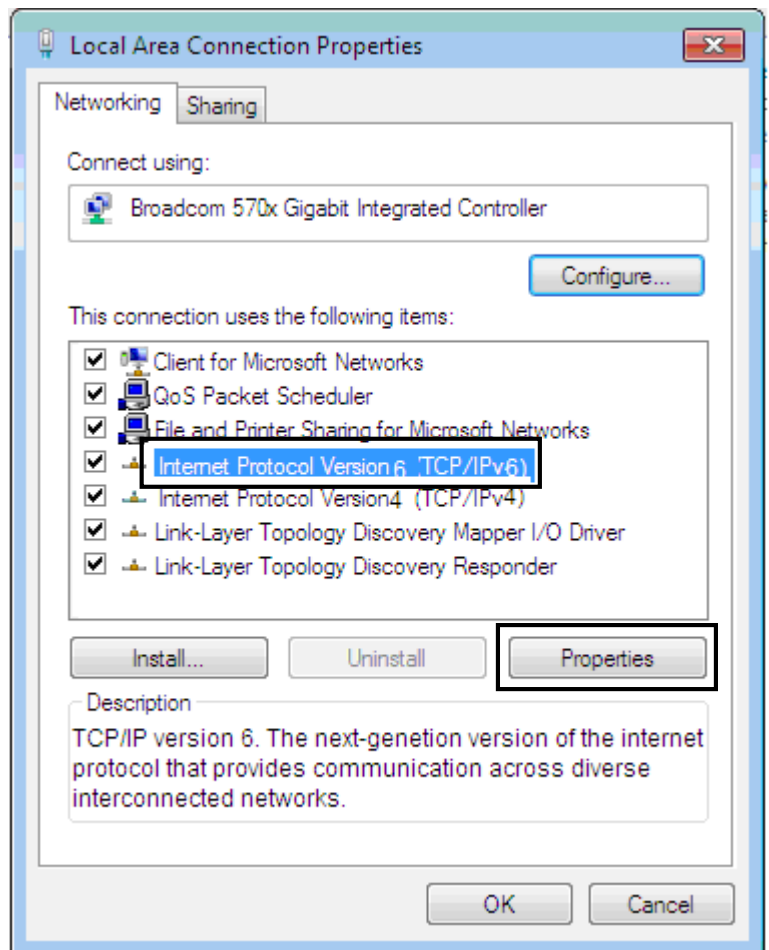
HomeGroup

Internet options

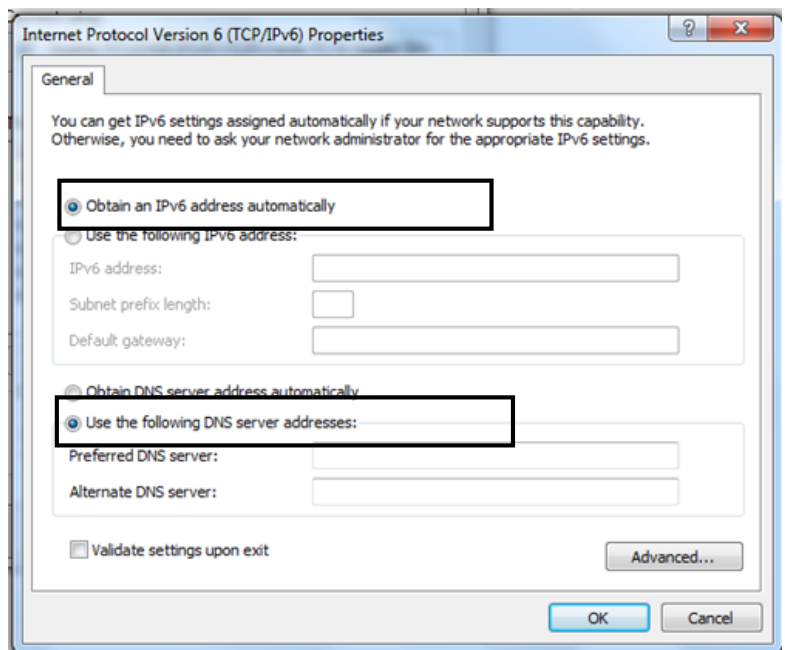
Windows Firewall



7. Select **Internet Protocol Version 6 (TCP/IPv6)** then click **Properties**.

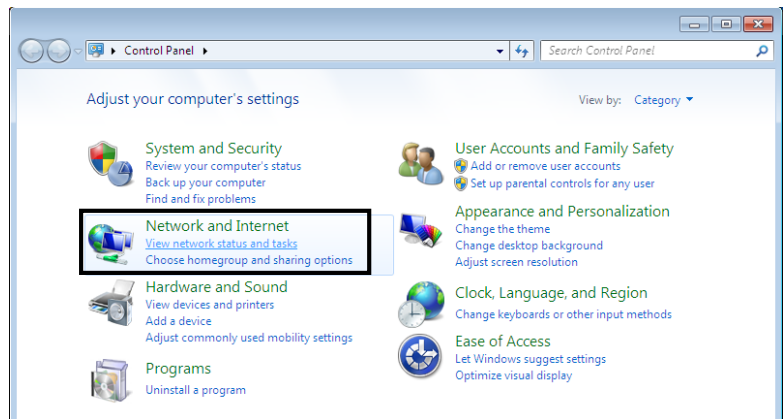


8. In the **TCP/IPv6 properties** window, select the **Obtain an IPv6 address automatically** and **Obtain DNS Server address automatically** radio buttons. Then click **OK** to exit the setting.
9. Click **OK** again in the **Local Area Connection Properties** window to apply the new configuration.

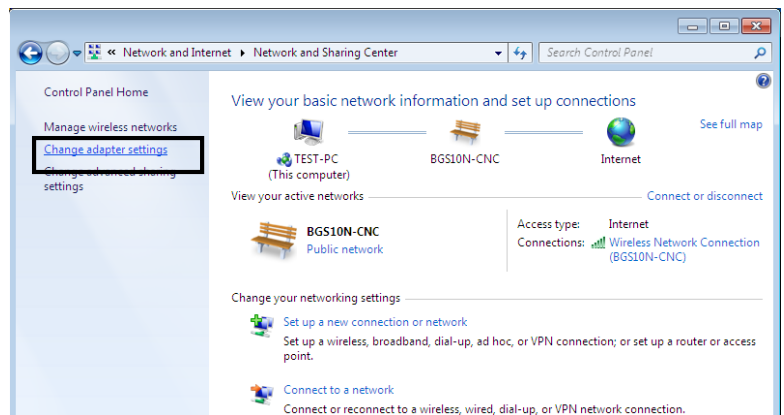


Configuring PC in Windows 7/8 (IPv6)

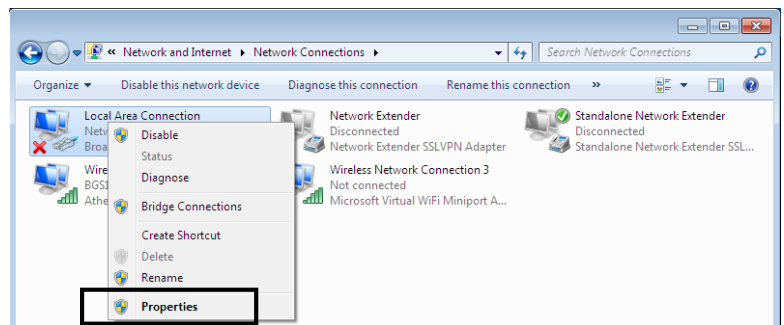
1. Go to **Start**. Click on **Control Panel**.
2. Then click on **Network and Internet**.



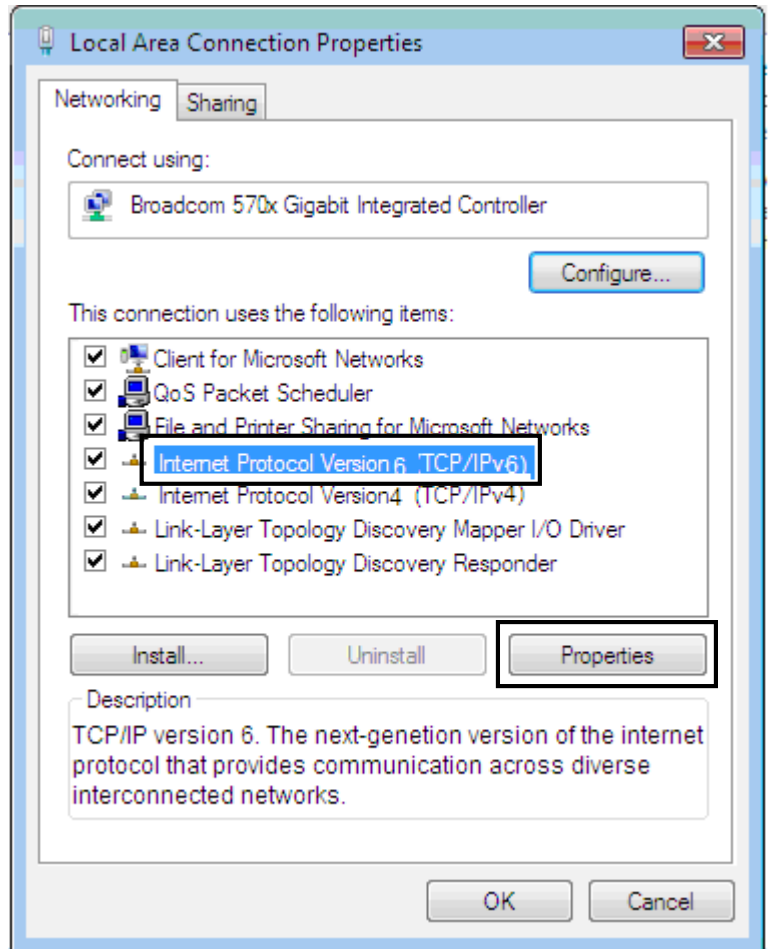
3. When the **Network and Sharing Center** window pops up, select and click on **Change adapter settings** on the left window panel.



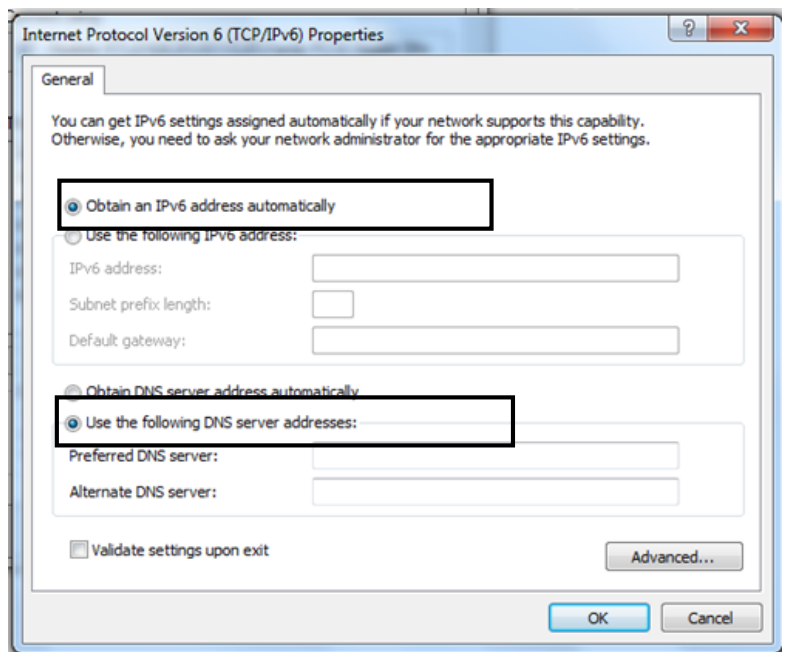
4. Select the **Local Area Connection**, and right click the icon to select **Properties**.



5. Select **Internet Protocol Version 6 (TCP/IPv6)** then click **Properties**.

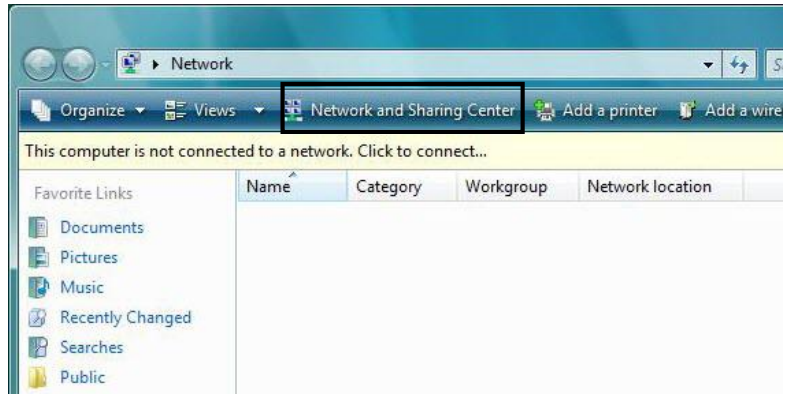


6. In the **TCP/IPv6 properties** window, select the **Obtain an IPv6 address automatically** and **Obtain DNS Server address automatically** radio buttons. Then click **OK** to exit the setting.
7. Click **OK** again in the **Local Area Connection Properties** window to apply the new configuration.



Configuring PC in Windows Vista (IPv6)

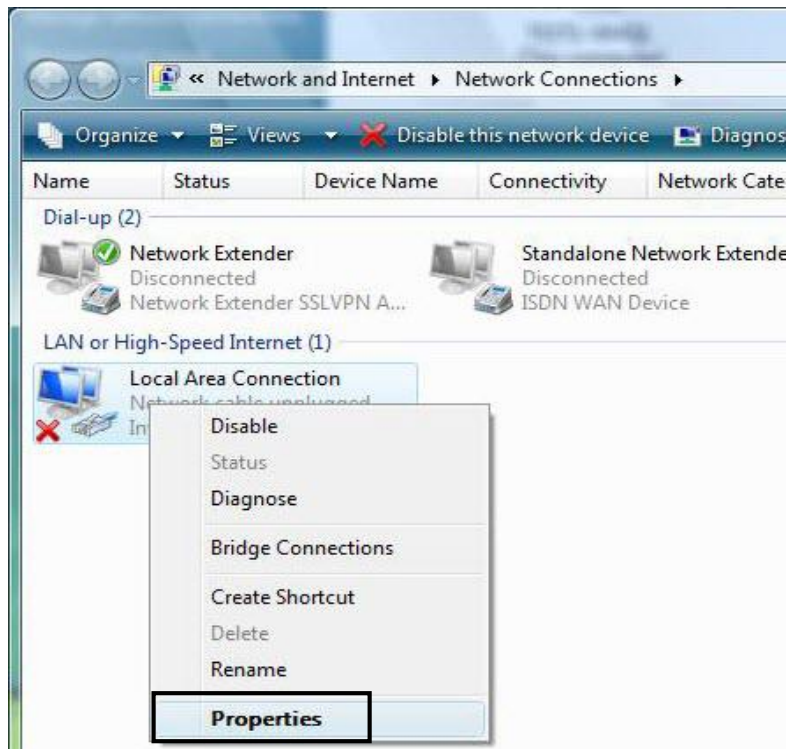
1. Go to **Start**. Click on **Network**.
2. Then click on **Network and Sharing Center** at the top bar.



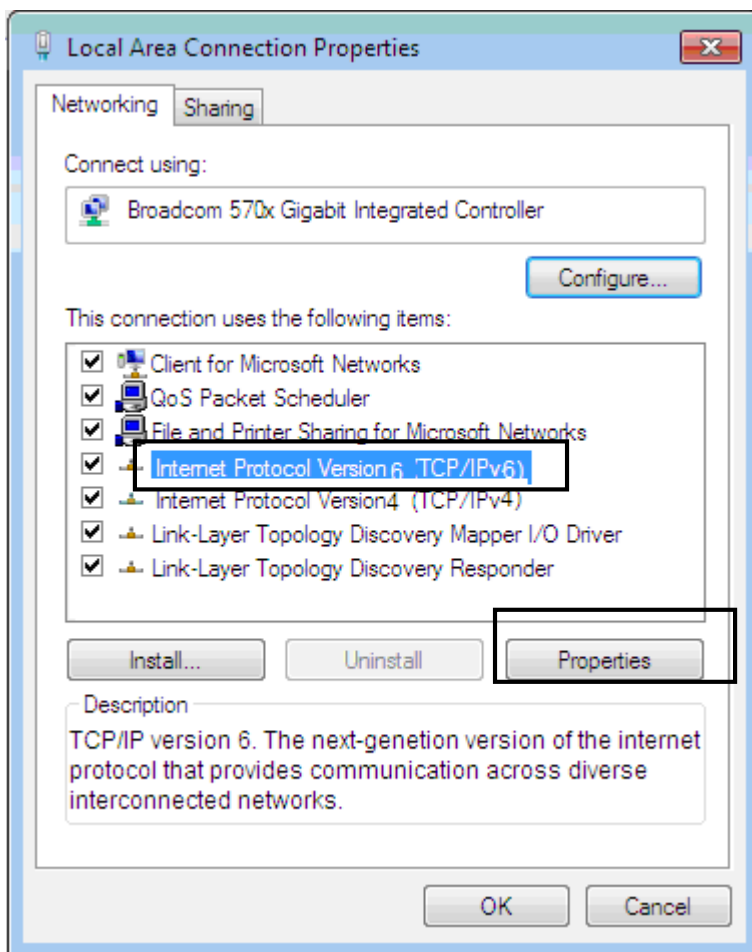
3. When the **Network and Sharing Center** window pops up, select and click on **Manage network connections** on the left window pane.



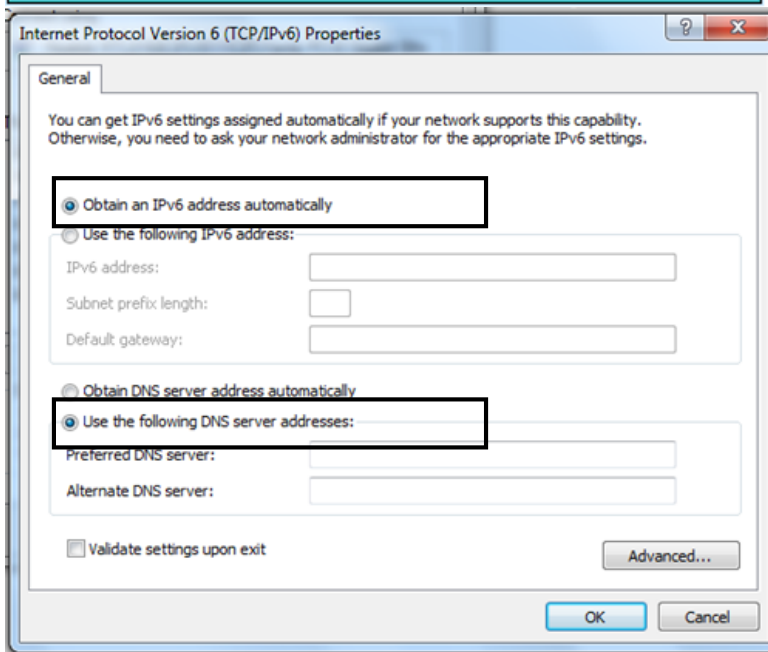
4. Select the **Local Area Connection**, and right click the icon to select **Properties**.



5. Select **Internet Protocol Version 6 (TCP/IPv6)** then click **Properties**.



6. In the **TCP/IPv6 properties** window, select the **Obtain an IP address automatically** and **Obtain DNS Server address automatically** radio buttons. Then click **OK** to exit the setting.
7. Click **OK** again in the **Local Area Connection Properties** window to apply the new configuration.

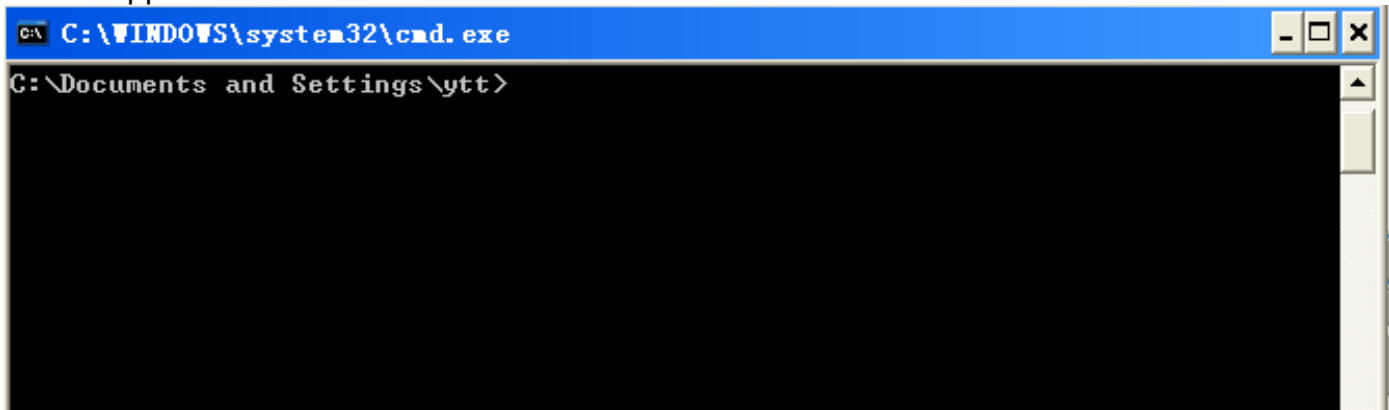


Configuring PC in Windows XP (IPv6)

IPv6 is supported by Windows XP, but you need to install it first.

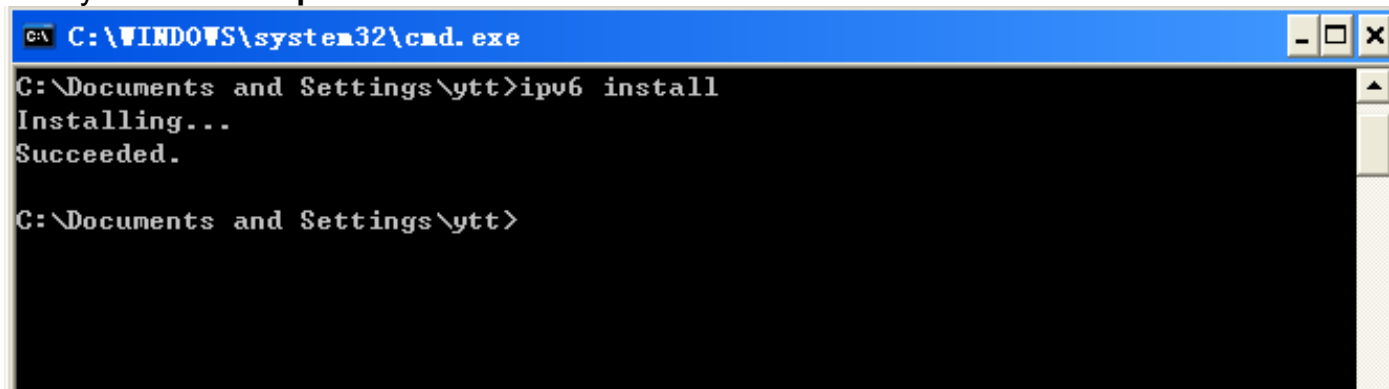
Please follow the steps to install IPv6:

1. On the Desktop, Click **Start > Run**, type **cmd**, then press **Enter** key in the keyboard, the following screen appears.



```
C:\WINDOWS\system32\cmd.exe
C:\Documents and Settings\ytt>
```

2. Key in command **ipv6 install**



```
C:\WINDOWS\system32\cmd.exe
C:\Documents and Settings\ytt>ipv6 install
Installing...
Succeeded.
C:\Documents and Settings\ytt>
```

Installation of IPv6 is now completed. Please test it to see if it works or not. .

Default Settings

Before configuring the router, you need to know the following default settings.

Web Interface: (Username and Password)

- ✓ Username: admin
- ✓ Password: admin

The default username and password are “**admin**” and “**admin**” respectively.



If you ever forget the username/password to login to the router, you may press the RESET button up to 6 seconds then release it to restore the factory default settings.

Caution: After pressing the RESET button for more than 6 seconds then release it, to be sure you power cycle the device again.

Device LAN IP Settings

- ✓ IP Address: 192.168.1.254
- ✓ Subnet Mask: 255.255.255.0

DHCP Server:

- ✓ DHCP server is enabled.
- ✓ Start IP Address: 192.168.1.100
- ✓ IP pool counts: 100

Information from Your ISP

Before configuring this device, you have to check with your ISP (Internet Service Provider) what kind of service is provided such as **EWAN** ((Dynamic IP address, Static IP address, PPPoE, Bridge Mode).

Gather the information as illustrated in the following table and keep it for reference.

PPPoE	Username, Password, Service Name, and Domain Name System (DNS) IP address (it can be automatically assigned by your ISP when you connect or be set manually).
Dynamic IP Address	DHCP Client (it can be automatically assigned by your ISP when you connect or be set manually).
Static IP Address	IP address, Subnet mask, Gateway address, and Domain Name System (DNS) IP address (it is fixed IP address).
Bridge Mode	Pure Bridge

CHAPTER 4: DEVICE CONFIGURATION

Login to your Device

Open your web browser, enter the IP address of your router, which by default is **192.168.1.254**, and click **Go**, a user name and password window prompt appears.

The default username and password is **“admin”** and **“admin”** respectively for the **Administrator**.

NOTE: This username / password may vary by different Internet Service Providers.



Congratulations! You have successfully logged on to your BEC 6300VNL.

Once you have logged on to your 6300VNL via your web browser, you can begin to set it up according to your requirements. On the configuration homepage, the left navigation pane links you directly to the setup pages, which includes:


directly to the setup pages, which include:

Section	Status	Quick Start (Wizard Setup)	Configuration	Language
Sub-Items	Device Info		Interface Setup <ul style="list-style-type: none">- Internet- LAN- Wireless- Wireless MAC Filter	
	System Status		Advanced Setup <ul style="list-style-type: none">- Firewall- Routing- NAT- Static DNS- QoS- Interface Grouping- Time Schedule	
	System Log		VoIP <ul style="list-style-type: none">- Basic- Media- Advanced- Speed Dial- Dial Plan- Call Features- NAT Traversal	
	3G/4G-LTE Status		Access Management <ul style="list-style-type: none">- Device Management- SNMP- Remote Syslog- Universal Plug & Play (UPnP)- Dynamic DNS- Access Control- Packet Filter- CWMP (TR-069)- Parental Control- SAMBA & FTP Server	
	Statistics		Maintenance <ul style="list-style-type: none">- User Management- Time Zone- Firmware & Configuration- System Restart- Auto Reboot- Diagnostic Tool	
	DHCP Table			
	Disk Status			
	VoIP Status <ul style="list-style-type: none">- VoIP Status- VoIP Call Log			

Please see the relevant sections of this manual for detailed instructions on how to configure your **BEC 6300VNL** gateway.

Status

In this section, you can check the router working status, including **Device Info**, **System Log**, **3G/4G-LTE Status**, **Statistics**, **DHCP Table**, **Disk Status**, and **VoIP Status**.



4G/LTE VoIP Gigabit Wireless Router

Status

- Device Info
- System Log
- 3G/4G-LTE Status
- Statistics
- DHCP Table
- Disk Status
- VoIP Status
- Quick Start
- Configuration
- Language

Status

Device Information

Model Name	BEC 6300VNL		
Firmware Version	1.02b.rc6.dt10		
MAC Address	00:04:ED:01:23:45		
LAN			
IPv4			
IP Address	192.168.1.254		
Subnet Mask	255.255.255.0		
DHCPv4 Server	Enable		
IPv6			
IP Address			
Prefix Length			
DHCPv6 Server	Enable Stateless		
WAN			
Interface	EWAN		
Service	0		
Connection Type	Dynamic IP		
IPv4			
Status	Connected		
IP Address	172.16.1.216	<button>Renew IP Address</button>	<button>Release IP Address</button>
Subnet Mask	255.255.255.0		
Default Gateway	172.16.1.254		
DNS Server	172.16.1.254		

Restart

Logout

Copyright © BEC Technologies, Ltd. All rights reserved.

Device Info

It contains basic information of the device.

Status

Device Information

Model Name	BEC 6300VNL
Firmware Version	1.02b.rc6.dt10
MAC Address	00:04:ED:01:23:45
LAN	
IPv4	
IP Address	192.168.1.254
Subnet Mask	255.255.255.0
DHCPv4 Server	Enable
IPv6	
IP Address	
Prefix Length	
DHCPv6 Server	Enable Stateless
WAN	
Interface	3G/4G-LTE
Connection Time	0d: 1h:13m:22s
IPv4	
Status	Connected
IP Address	100.101.33.242
Subnet Mask	255.255.255.252
Default Gateway	100.101.33.241
DNS Server	168.95.1.1
3G/4G-LTE	
Signal Strength	<div><div></div></div> -72.00dbm
Network Name	"Chunghwa Telecom"
Card IMEI	
Card IMSI	

Device Information

Model Name: Name of the router for identification purpose.

Firmware Version: Software version currently loaded in the router

MAC Address: A unique number that identifies the router

LAN

▶ IPv4:

IP Address: LAN port IPv4 address.

Subnet Mask: LAN port IP subnet mask.

DHCPv4 Server: LAN port DHCP role - Enabled, Relay or Disabled.

▶ **IPv6:**

IP Address: LAN port IPv6 address.

Prefix Length: The prefix length

DHCPv6 Server: The DHCP status.

WAN

Interface: WAN connection options, "EWAN" or "3G/4G-LTE".

Service: The WAN interface service index.

PPP Connection Time: the uptime of the PPP connection.

▶ **IPv4:**

Status: The connection status, either being connected or not in connected.

IP Address: WAN port IP address.

Subnet Mask: WAN port IP subnet mask.

Default Gateway: The IP address of the default gateway.

DNS Server: DNS information.

▶ **IPv6:**

Status: The IPv6 connection status.

IP Address: WAN port IPv6 address.

Prefix Length: The prefix length of IPv6 address.

Default Gateway: The IP address of the default gateway.

DNS Server: DNS information.

▶ **3G/4G-LTE:**

Signal Strength: The signal strength bar and dBm value indicates the current 3G/4G-LTE signal strength. The front panel 3G/4G-LTE Signal Strength LED indicates the signal strength as well.

Network Name: The name of the LTE network the router is connecting to.

Card IMEI: The unique identification number that is used to identify the 3G/4G-LTE module.

Card IMSI: The international mobile subscriber identity used to uniquely identify the 3G/4G-LTE module.

System Status

System status displays the current router system (CPU and Memory) usage.

System Status	
CPU	
Usage	16%
Memory	
Total	61092 kB
Free	21304 kB
Cached	16072 kB
Refresh	

System Log

In system log, you can check the operations status and any glitches to the router.

Status

System Log

```

Jan  1 00:00:30 syslogd started: BusyBox v1.00 (2013.08.16-04:45+0000)
Jan  1 00:00:32 dnsmasq[1241]: started, version 2.52 cachesize 150
Jan  1 00:00:32 dnsmasq[1241]: compile time options: IPv6 GNU-getopt no-RTC no-
DBus no-I18N no-DHCP no-TFTP
Jan  1 00:00:32 dnsmasq[1241]: reading /etc/resolv.conf
Jan  1 00:00:32 dnsmasq[1241]: ignoring nameserver ::1 - local interface
Jan  1 00:00:32 dnsmasq[1241]: ignoring nameserver 127.0.0.1 - local interface
Jan  1 00:00:32 dnsmasq[1241]: read /etc/hosts - 0 addresses
Dec 20 18:00:00 PPOELOGIN: bind service port
Dec 20 18:00:00 PPOELOGIN: begin service loop
Dec 20 18:00:30 dnsmasq[1775]: started, version 2.52 cachesize 150
Dec 20 18:00:30 dnsmasq[1775]: compile time options: IPv6 GNU-getopt no-RTC no-
DBus no-I18N no-DHCP no-TFTP
Dec 20 18:00:30 dnsmasq[1775]: reading /etc/resolv.conf
Dec 20 18:00:30 dnsmasq[1775]: ignoring nameserver ::1 - local interface
Dec 20 18:00:30 dnsmasq[1775]: ignoring nameserver 127.0.0.1 - local interface
Dec 20 18:00:30 dnsmasq[1775]: read /etc/hosts - 0 addresses

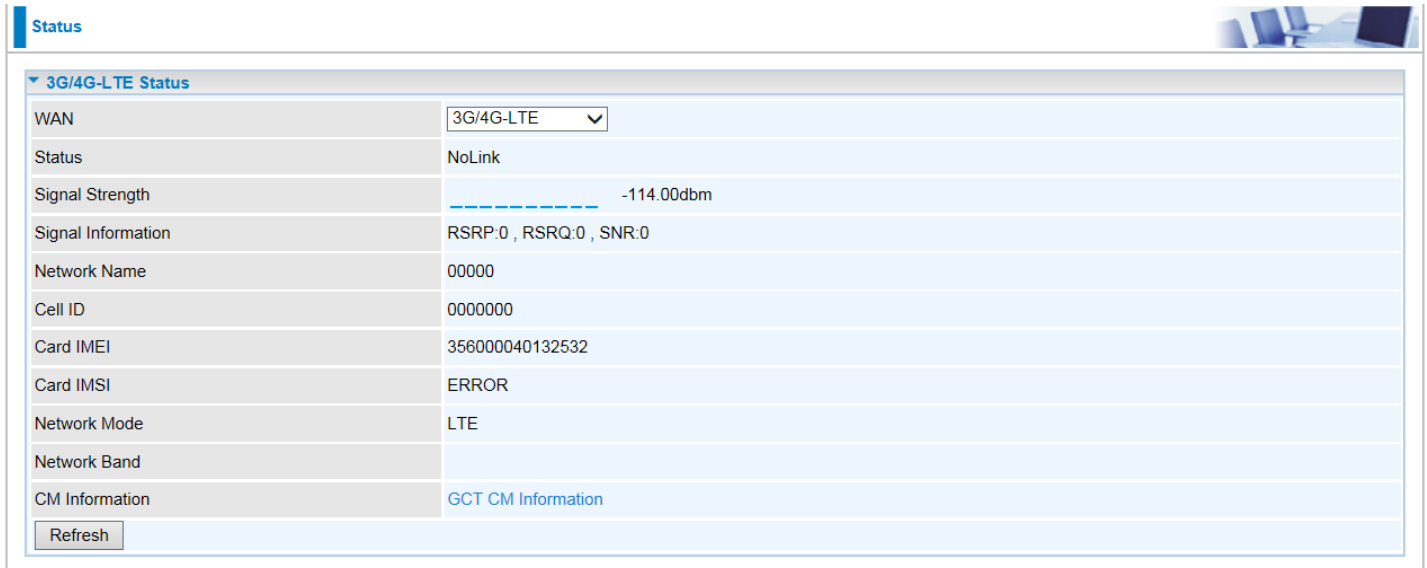
```

Refresh

Refresh: Press this button to refresh the statistics.

3G/4G-LTE Status

This page contains 3G/4G-LTE connection information.



The screenshot shows a web interface for 3G/4G-LTE status. At the top, there is a 'Status' tab. Below it, a section titled '3G/4G-LTE Status' contains a table of connection parameters. The 'WAN' dropdown is set to '3G/4G-LTE'. The 'Status' is 'NoLink'. The 'Signal Strength' is represented by a bar graph and the value '-114.00dbm'. The 'Signal Information' shows 'RSRP:0 , RSRQ:0 , SNR:0'. Other fields include 'Network Name' (00000), 'Cell ID' (0000000), 'Card IMEI' (356000040132532), 'Card IMSI' (ERROR), 'Network Mode' (LTE), and 'Network Band'. A 'CM Information' link is available. A 'Refresh' button is at the bottom left.

3G/4G-LTE Status	
WAN	3G/4G-LTE
Status	NoLink
Signal Strength	-114.00dbm
Signal Information	RSRP:0 , RSRQ:0 , SNR:0
Network Name	00000
Cell ID	0000000
Card IMEI	356000040132532
Card IMSI	ERROR
Network Mode	LTE
Network Band	
CM Information	GCT CM Information
<input type="button" value="Refresh"/>	

Status: The current status of the 3G/4G-LTE connection.

Signal Strength: The signal strength bar and dBm value indicates the current 3G/4G-LTE signal strength. The front panel 3G/4G-LTE Signal Strength LED indicates the signal strength as well.

Signal Information: Shows important LTE signal parameters such as RSRP (Reference Signal Receiving Power), RSRQ (Reference Signal Receiving Quality), SINR (Signal to Interference plus Noise Ratio).

- ▶ **RSRP (Reference Signal Receiving Power):** is the average power of all resource elements which carry cell-specified reference signals over the entire bandwidth.
- ▶ **RSRQ (Reference Signal Receiving Quality):** measures the signal strength and is calculated based on both RSRP and RSSI.
- ▶ **RSSI (Received Signal Strength Indicator):** parameter which provides information about total received wide-band power (measure in all symbols) including all interference and thermal noise.
- ▶ **SNR (Signal Noise Ratio):** is also a measure of signal quality as well. It is widely used by the operators as it provides a clear relationship between RF conditions and throughput.

Note: Some LTE modules do not provide this information.

Network Name: The name of the LTE network the router is connecting to.

Cell ID: The ID of base station that the device is connected to.

Card IMEI: The unique identification number that is used to identify the 3G/4G-LTE module.

Card IMSI: The international mobile subscriber identity used to uniquely identify the 3G/4G-LTE module.

Network Mode: Display current network operating mode.

Network Band: Indicated the current radio frequency band used.

Refresh: Press this button to refresh the statistics.

Statistics

❖ EWAN

Status

Statistics

Traffic Statistics

Interface

☒ EWAN
☐ 3G/4G-LTE
☐ 3G/4G-LTE USB
☐ Ethernet
☐ Wireless

Transmit Statistics

Transmit Frames

73852

Transmit Multicast Frames

817

Transmit Total Bytes

15977177

Transmit Collision

0

Transmit Error Frames

0

Receive Statistics

Receive Frames

153578

Receive Multicast Frame

79037

Receive Total Bytes

14342348

Receive CRC Errors

0

Receive Under-size Frames

0

Refresh

Interface: List all available network interfaces in the router. You are currently checking on the physical status of the **EWAN** port.

Transmit Frames: This field displays the total number of frames transmitted until the latest second.

Transmit Multicast Frames: This field displays the total number of multicast frames transmitted till the latest second.

Transmit Total Bytes: This field displays the total number of bytes transmitted until the latest second.

Transmit Collision: This is the number of collisions on this port.

Transmit Error Frames: This field displays the number of error packets on this port.

Receive Frames: This field displays the number of frames received until the latest second.

Receive Multicast Frames: This field displays the number of multicast frames received until the latest second.

Receive Total Bytes: This field displays the number of bytes received until the latest second.

Receive CRC Errors: This field displays the number of error packets on this port.

Receive Under-size Frames: This field displays the number of under-size frames received until the latest second.

Refresh: Press this button to refresh the statistics.

❖ 3G/4G-LTE

Take 3G/4G-LTE as an example to describe the following connection transmission information.

Status

Statistics

Traffic Statistics

Interface

☐ EWAN
☒ 3G/4G-LTE
☐ 3G/4G-LTE USB
☐ Ethernet
☐ Wireless

Transmit Statistics

Transmit Frames of Current Connection

0

Transmit Bytes of Current Connection

0

Transmit Total Frames

0

Transmit Total Bytes

47250

Receive Statistics

Receive Frames of Current Connection

0

Receive Bytes of Current Connection

0

Receive Total Frames

0

Receive Total Bytes

0

Refresh

Interface: List all available network interfaces in the router. You are currently checking on the physical status of **3G/4G-LTE** interface.

Transmit Frames of Current Connection: This field displays the total number of 3G/4G-LTE frames transmitted until the latest second for the current connection.

Transmit Bytes of Current Connection: This field shows the total bytes transmitted till the latest second for the current connection for the current connection.

Transmit Total Frames: The field displays the total number of frames transmitted till the latest second since system is up.

Transmit Total Bytes: This field displays the total number of bytes transmitted until the latest second since system is up.

Receive Frames of Current Connection: This field displays the number of frames received until the latest second for the current connection.

Receive Bytes of Current Connection: This field shows the total bytes received till the latest second for the current connection.

Receive Total Frames: This field displays the total number of frames received until the latest second since system is up.

Receive Total Bytes: This field displays the total frames received till the latest second since system is up.

❖ 3G/4G_LTE via USB port

Take 3G/4G-LTE USB as an example to describe the following connection transmission information.

Status

Statistics

Traffic Statistics

Interface

☐ EWAN
☐ 3G/4G-LTE
☒ 3G/4G-LTE USB
☐ Ethernet
☐ Wireless

Transmit Statistics

Transmit Frames of Current Connection

0

Transmit Bytes of Current Connection

0

Transmit Total Frames

0

Transmit Total Bytes

0

Receive Statistics

Receive Frames of Current Connection

0

Receive Bytes of Current Connection

0

Receive Total Frames

0

Receive Total Bytes

0

Refresh

Interface: List all available network interfaces in the router. You are currently checking on the physical status of **3G/4G-LTE** interface.

Transmit Frames of Current Connection: This field displays the total number of 3G/4G-LTE frames transmitted until the latest second for the current connection.

Transmit Bytes of Current Connection: This field shows the total bytes transmitted till the latest second for the current connection for the current connection.

Transmit Total Frames: The field displays the total number of frames transmitted till the latest second since system is up.

Transmit Total Bytes: This field displays the total number of bytes transmitted until the latest second since system is up.

Receive Frames of Current Connection: This field displays the number of frames received until the latest second for the current connection.

Receive Bytes of Current Connection: This field shows the total bytes received till the latest second for the current connection.

Receive Total Frames: This field displays the total number of frames received until the latest second since system is up.

Receive Total Bytes: This field displays the total frames received till the latest second since system is up.

❖ Ethernet

Status

Statistics

Traffic Statistics

Interface

☐ EWAN
☐ 3G/4G-LTE
☐ 3G/4G-LTE USB
☒ Ethernet
☐ Wireless

Transmit Statistics

Transmit Frames

157600

Transmit Multicast Frames

157600

Transmit Total Bytes

55934140

Transmit Collision

0

Transmit Error Frames

0

Receive Statistics

Receive Frames

153519

Receive Multicast Frame

79023

Receive Total Bytes

14334604

Receive CRC Errors

0

Receive Under-size Frames

0

Refresh

Interface: List all available network interfaces in the router. You are currently checking on the physical status of the **Ethernet** port.

Transmit Frames: This field displays the number of frames transmitted until the latest second.

Transmit Multicast Frames: This field displays the number of multicast frames transmitted until the latest second.

Transmit Total Bytes: This field displays the number of bytes transmitted until the latest second.

Transmit Collision: This is the number of collisions on this port.

Transmit Error Frames: This field displays the number of error packets on this port.

Receive Frames: This field displays the number of frames received until the latest second.

Receive Multicast Frames: This field displays the number of multicast frames received until the latest second.

Receive Total Bytes: This field displays the number of bytes received until the latest second.

Receive CRC Errors: This field displays the number of error packets on this port.

Receive Under-size Frames: This field displays the number of under-size frames received until the latest second.

Refresh: Press this button to refresh the statistics.

❖ Wireless

Status

Statistics

Traffic Statistics

Interface

☐ EWAN
☐ 3G/4G-LTE
☐ 3G/4G-LTE USB
☐ Ethernet
☒ Wireless

Transmit Statistics

Transmit Frames

76131

Transmit Error Frames

1954

Transmit Drop Frames

1954

Receive Statistics

Receive Frames

1534449

Receive Error Frames

18319981

Receive Drop Frames

18319981

Refresh

Interface: List all available network interfaces in the router. You are currently checking on the physical status of the **Wireless**.

Transmit Frames: This field displays the number of frames transmitted until the latest second.

Transmit Error Frames: This field displays the number of error frames transmitted until the latest second.

Transmit Drop Frames: This field displays the number of drop frames transmitted until the latest second.

Receive Frames: This field displays the number of frames received until the latest second.

Receive Error Frames: This field displays the number of error frames received until the latest second.

Receive Drop Frames: This field displays the number of drop frames received until the latest second.

Refresh: Press this button to refresh the statistics.

DHCP Table

DHCP table displays the devices connected to the router with clear information.

Status

▼ DHCP Table List

#	Host Name	IP Address	MAC Address	Expire Time
1	billion-17bc6f1	192.168.1.104	18:A9:05:38:04:03	0days 23:37:51

Index #: The index identifying the connected devices.

Host Name: Show the hostname of the PC.

IP Address: The IP allocated to the device.

MAC Address: The MAC of the connected device.

Expire Time: The total remaining interval since the IP assignment to the PC.

Disk Status

Status

Partition: Display the USB storage partition.

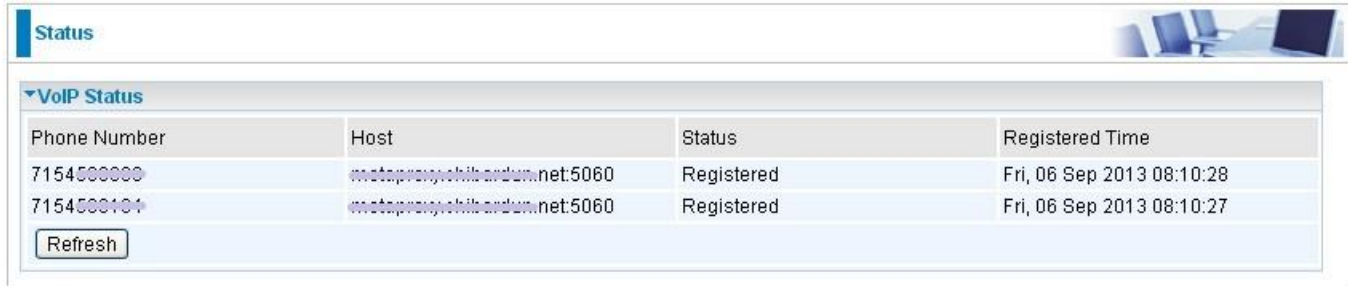
Disk Space (KB): Display the total storage space of the NAS in Kbytes unit.

Free Space (KB): Display the available space in Kbytes unit.

VoIP Status

❖ VoIP Status

VoIP status gives you a directive picture on the registered VoIP accounts.

A screenshot of the 'VoIP Status' web interface. It features a 'Status' tab and a 'VoIP Status' section. The section contains a table with four columns: 'Phone Number', 'Host', 'Status', and 'Registered Time'. There are two rows of data, both showing 'Registered' status. A 'Refresh' button is located at the bottom left of the table.

Phone Number	Host	Status	Registered Time
7154500000	metaprogny.chilbardun.net:5060	Registered	Fri, 06 Sep 2013 08:10:28
7154500104	metaprogny.chilbardun.net:5060	Registered	Fri, 06 Sep 2013 08:10:27

Phone Number: The number you use to register in the Basic page of VoIP.

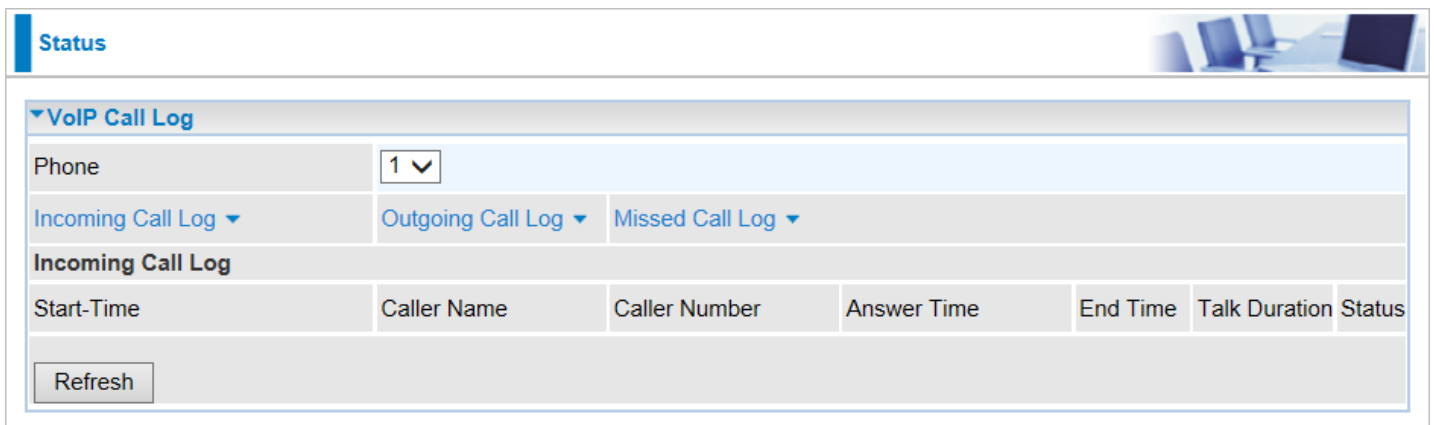
Host: Show the IP address and port number of SIP Registrar.

Status: The status of the registered SIP account.

Registered Time: The duration the account has been successfully registered to the SIP registrar.

❖ VoIP Call Log

VoIP call log records all inbound / outbound calls in details within your VoIP accounts. You can quickly view the call date, time, incoming/outgoing/missed call telephone number, and more.

A screenshot of the 'VoIP Call Log' web interface. It features a 'Status' tab and a 'VoIP Call Log' section. The section includes a 'Phone' dropdown menu set to '1'. Below it are three tabs: 'Incoming Call Log', 'Outgoing Call Log', and 'Missed Call Log'. The 'Incoming Call Log' tab is active, showing a table with columns: 'Start-Time', 'Caller Name', 'Caller Number', 'Answer Time', 'End Time', 'Talk Duration', and 'Status'. A 'Refresh' button is located at the bottom left of the table.

Start-Time	Caller Name	Caller Number	Answer Time	End Time	Talk Duration	Status
------------	-------------	---------------	-------------	----------	---------------	--------

Phone Number: The number you use to register in the Basic page of VoIP.

Incoming / Outgoing / Miss Call Log: Click the call log you want to view.

Start-Time: The start time of the call

Caller/Called Name: Display the caller ID of the dialing party / the party you dialed to reach to.

Caller/Called Number: Display caller telephone number / telephone number you dialed to reach to

Answer Time: The answer time of phone call

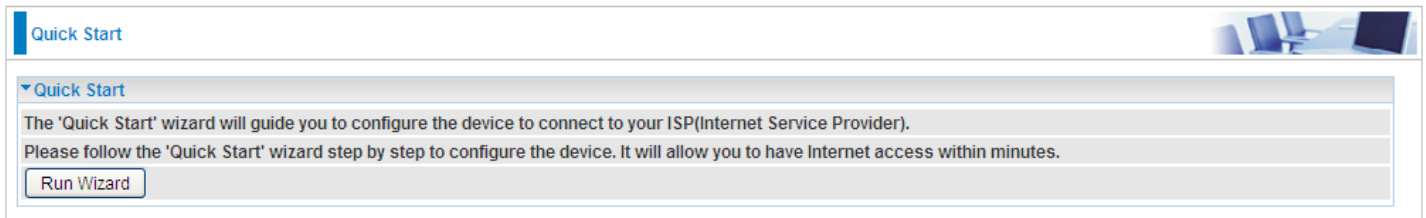
End Time: The end time of the call

Talk Duration: Time duration of individual calls from dial/call to hang-up.

Status: Current call status if phones are off hook or in a call.

Quick Start

This is a useful and easy utility to help you to setup the router quickly and to connect to your ISP (Internet Service Provider) with only a few steps. It will guide you step by step to setup time zone and WAN settings of your device. The Quick Start Wizard is a helpful guide for the first-time users to the device.



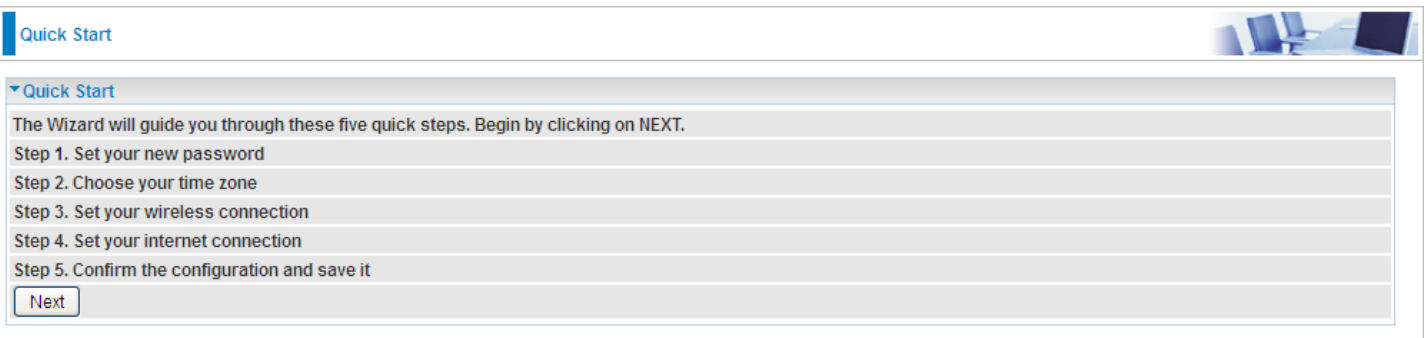
Quick Start

▼ Quick Start

The 'Quick Start' wizard will guide you to configure the device to connect to your ISP(Internet Service Provider). Please follow the 'Quick Start' wizard step by step to configure the device. It will allow you to have Internet access within minutes.

Run Wizard

For detailed instructions on configuring WAN settings, see refer to the **Interface Setup** section.



Quick Start

▼ Quick Start

The Wizard will guide you through these five quick steps. Begin by clicking on NEXT.

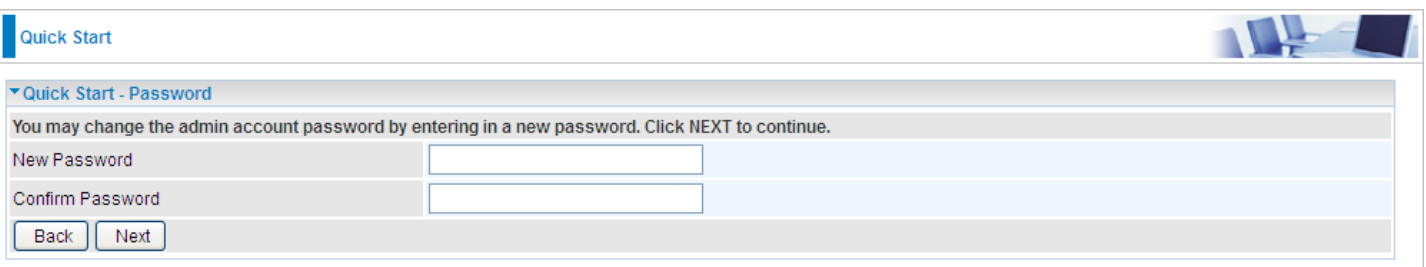
- Step 1. Set your new password
- Step 2. Choose your time zone
- Step 3. Set your wireless connection
- Step 4. Set your internet connection
- Step 5. Confirm the configuration and save it

Next

Click **NEXT** to move on to Step 1.

Step 1 – Password

Set new password of the “admin” account to access for router management. The default is “admin”. Once changed, please use this new password next time when accessing to the router. Click **NEXT** to continue.



Quick Start

▼ Quick Start - Password

You may change the admin account password by entering in a new password. Click NEXT to continue.

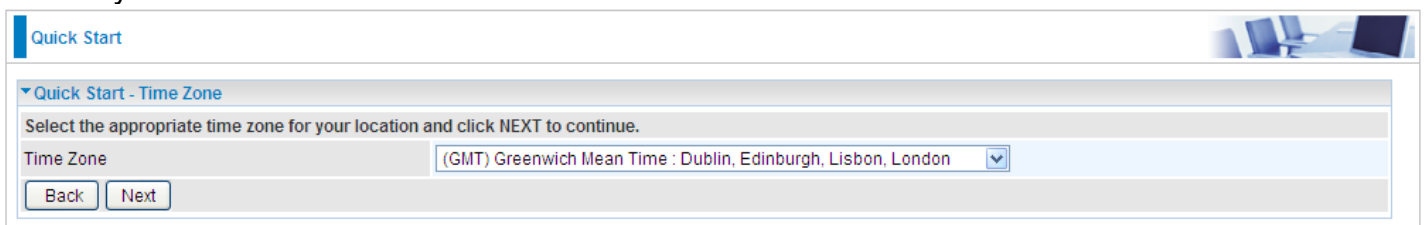
New Password

Confirm Password

Back Next

Step 2 – Time Zone

Choose your time zone. Click **NEXT** to continue.



Quick Start

▼ Quick Start - Time Zone

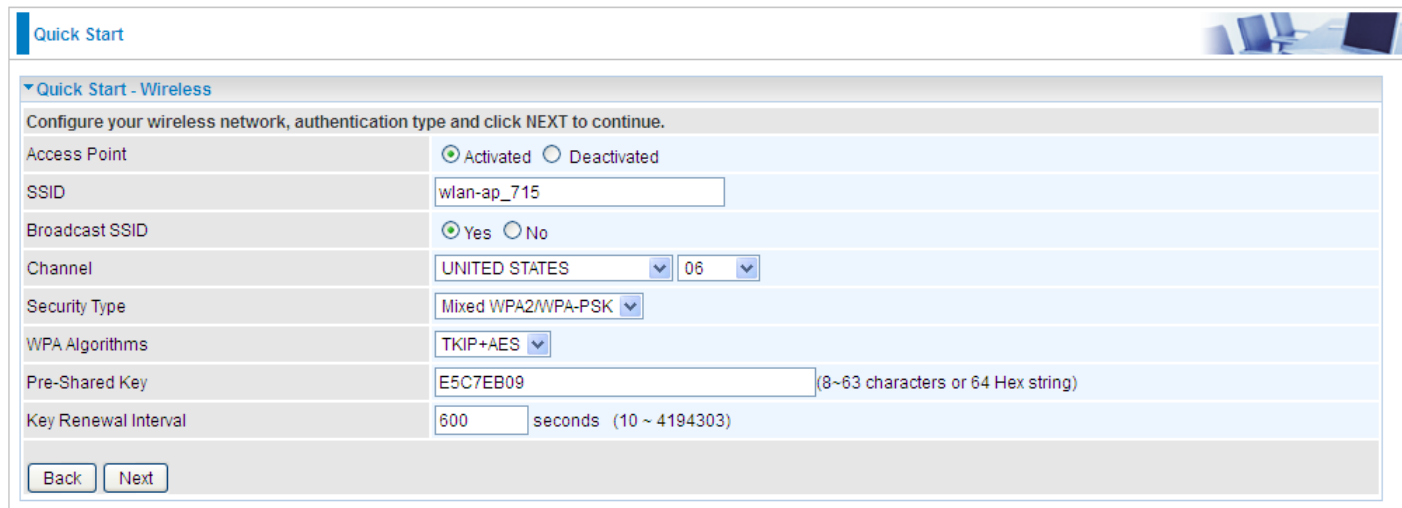
Select the appropriate time zone for your location and click NEXT to continue.

Time Zone

Back Next

Step 3 – Wireless

Set up your wireless connection if you want to connect to the Internet wirelessly on your PCs. Click **NEXT** to continue.



Quick Start

Quick Start - Wireless

Configure your wireless network, authentication type and click **NEXT** to continue.

Access Point ☒ Activated ☐ Deactivated

SSID

Broadcast SSID ☒ Yes ☐ No

Channel

Security Type

WPA Algorithms

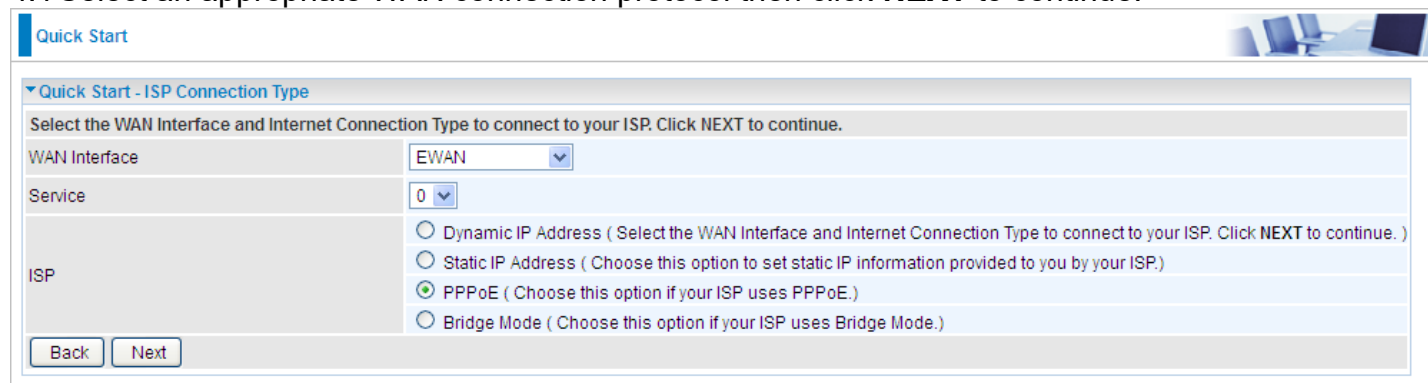
Pre-Shared Key (8~63 characters or 64 Hex string)

Key Renewal Interval seconds (10 ~ 4194303)

Step 4 – ISP Connection Type

Set up your Internet connection.

4.1 Select an appropriate WAN connection protocol then click **NEXT** to continue.



Quick Start

Quick Start - ISP Connection Type

Select the WAN Interface and Internet Connection Type to connect to your ISP. Click **NEXT** to continue.

WAN Interface

Service

ISP

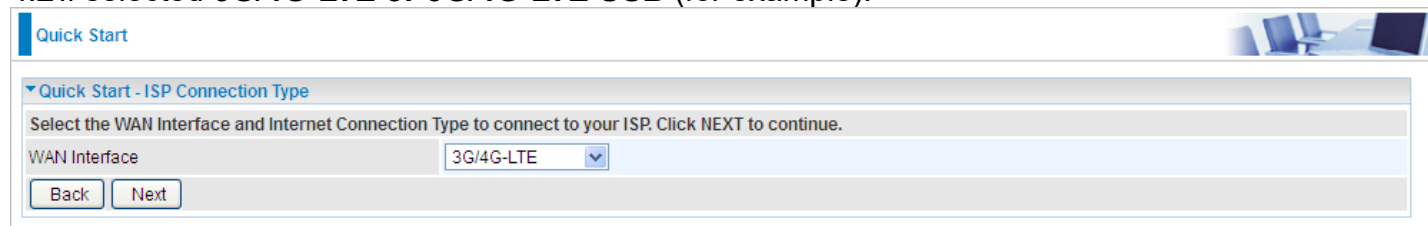
☐ Dynamic IP Address (Select the WAN Interface and Internet Connection Type to connect to your ISP. Click **NEXT** to continue.)

☐ Static IP Address (Choose this option to set static IP information provided to you by your ISP.)

☒ PPPoE (Choose this option if your ISP uses PPPoE.)

☐ Bridge Mode (Choose this option if your ISP uses Bridge Mode.)

4.2 If selected **3G/4G-LTE** or **3G/4G-LTE USB** (for example).



Quick Start

Quick Start - ISP Connection Type

Select the WAN Interface and Internet Connection Type to connect to your ISP. Click **NEXT** to continue.

WAN Interface

Input all relevant 3G/4G-LTE parameters from your ISP.

Quick Start

Quick Start - 3G/4G-LTE

Enter the 3G information provided to you by your ISP. Click NEXT to continue.

TEL No.	<input type="text" value="*9g***1#"/>
APN	<input type="text" value="internet"/>
Username	<input type="text"/>
Password	<input type="password"/>
PIN	<input type="text"/>

Click Next to save changes.

Quick Start

Quick Start - Quick Start Completed

Quick Start Completed !!

The Setup Wizard has completed. Click on BACK to modify changes or mistakes. Click NEXT to exit the Setup Wizard.

4.2 If selected **EWAN / PPPoE**, please enter PPPoE account information provided by your ISP. Click **NEXT** to continue.

Quick Start

Quick Start - PPPoE

Provide the PPPoE information. Click NEXT to continue.

Username	<input type="text"/>
Password	<input type="password"/>

Step 5 – Quick Start Completed

The Setup Wizard has completed. Click on BACK to modify changes or mistakes. Click **NEXT** to save the current settings.

Quick Start

Quick Start - Quick Start Completed

Quick Start Completed !!

The Setup Wizard has completed. Click on BACK to modify changes or mistakes. Click NEXT to exit the Setup Wizard.

Quick Start

Quick Start - Quick Start Completed !!

Quick Start Completed !!

Saved Changes.

Switch to **Status > Device Info** to view the status.


Configuration

Click to access and configure the available features in the following: **Interface Setup, Advanced Setup, VoIP, Access Management, and Maintenance.**


These functions are described in the following sections.

Interface Setup

Here are the features under **Interface Setup: Internet, LAN, Wireless** and **Wireless MAC Filter.**


4G/LTE VoIP Gigabit Wireless Router



- Status
- Quick Start
- ▼ Configuration
 - Interface Setup
 - Advanced Setup
 - VoIP
 - Access Management
 - Maintenance
- Language

Configuration


▼ Internet

WAN Interface	3G/4G-LTE ▼
Status	<input checked="" type="radio"/> Activated <input type="radio"/> Deactivated
Network Mode	Automatic ▼
TEL No.	*99***1#
APN	internet
Username	
Password	
PIN	
Connection	<input checked="" type="radio"/> Always On (Recommended)
Keep Alive	<input type="radio"/> Yes <input checked="" type="radio"/> No
Default Route	<input checked="" type="radio"/> Yes <input type="radio"/> No
NAT	Enable ▼

Save

 Restart
 Logout

Copyright © BEC Technologies Inc. All rights reserved.

Internet

❖ EWAN

Configuration

Internet

WAN Interface

EWAN

Multi Service

Service Index

0

Services Summary

Status

☒ Activated
☐ Deactivated

IPv4/IPv6

IP Version

☐ IPv4
☒ IPv4/IPv6
☐ IPv6

ISP Connection Type

ISP

☐ Dynamic IP Address
☐ Static IP Address
☒ PPPoE
☐ Bridge Mode

802.1q Options

802.1q

☐ Activated
☒ Deactivated

VLAN ID

0

(range: 0~4095)

PPPoE

Username

Password

Bridge Interface for PPPoE

☐ Activated
☒ Deactivated

Connection Setting

Connection

☒ Always On (Recommended)
☐ Connect Manually

TCP MSS Option

TCP MSS 0 bytes(0 means use default)

IP Options

IP Common Options

Default Route

☒ Yes
☐ No

IPv4 Options

Get IP Address

☐ Static
☒ Dynamic

Static IP Address

0.0.0.0

IP Subnet Mask

0.0.0.0

Gateway

0.0.0.0

NAT

Enable

Dynamic Route

RIP1

Direction

None

TCP MTU Option

TCP MTU 0 bytes(0 means use default:1492)

IGMP Proxy

☐ Enable
☒ Disable

IPv6 Options

IPv6 Address

/

Obtain IPv6 DNS

☒ Enable
☐ Disable

Primary DNS

Secondary DNS

MLD Proxy

☐ Enable
☒ Disable

Save

Multi Service

Service Index: The index marks the EWAN interface of different ISP type, ranging from 0-7.

Service Summary: The overall service information.

Status			
Service Information Summary			
WAN 0	Active	ISP	IP Address
0	Yes	PPPoE	Dynamic
1	Yes	Bridge	N/A
2	No	Bridge	N/A
3	No	Bridge	N/A
4	No	Bridge	N/A
5	No	Bridge	N/A
6	No	Bridge	N/A
7	No	Bridge	N/A

Status: Select whether to enable the service.

IPv4/IPv6

IP Version: Choose **IPv4**, **IPv4/IPv6**, **IPv6** based on your environment. If you don't know which one to choose from, please choose IPv4/IPv6 instead.

ISP Connection Type:

ISP: Select the encapsulation type your ISP uses.

- ▶ **Dynamic IP:** Select this option if your ISP provides you an IP address automatically.
- ▶ **Static IP:** Select this option to set static IP information. You will need to enter in the Connection type, IP address, subnet mask, and gateway address, provided to you by your ISP. Each IP address entered in the fields must be in the appropriate IP form. IP address from by four IP octets separated by a dot (xx.xx.xx.xx). The Router will not accept the IP address if it is not in this format.
- ▶ **PPPoE:** Select this option if your ISP requires you to use a PPPoE connection.
- ▶ **Bridge:** Select this mode if you want to use this device as an OSI Layer 2 device like a switch.

802.1q Options

802.1q: When activated, please enter a VLAN ID.

VLAN ID: It is a parameter to specify the VLAN which the frame belongs. Enter the VLAN ID identification, tagged: 0-4095.

PPPoE (If selected PPPoE as WAN Connection Type; otherwise, skip this part)

Username: Enter the user name provided by your ISP.

Password: Enter the password provided by your ISP.

Bridge Interface for PPPoE: When "Activated", the device will gain WAN IP from your ISP with the PPPoE account. But if your PC is connected to the router working as a DHCP client, in this mode, the

device acts as a NAT router; while if you dial up with the account within your PC, the device will then work as a bridge forwarding the PPPoE information to the PPPoE server and send the response to your PC, thus your PC gets a WAN IP working in the internet.

Connection Setting

Connection:

- ▶ **Always On:** Click on **Always On** to establish a PPPoE session during start up and to automatically re-establish the PPPoE session when disconnected by the ISP.
- ▶ **Connect Manually:** Select Connect Manually when you don't want the connection up all the time.

TCP MSS Option: Enter the maximum size of the data that TCP can send in a segment. Maximum Segment Size (MSS).

IP Common Options

Default Route: Select **Yes** to use this interface as default route interface.

TCP MTU Option: Enter the maximum packet that can be transmitted. Default MTU **0** means it is set to 1492 bytes.

IPv4 Options

Get IP Address: Choose Static or Dynamic

Static IP Address: If **Static** is selected in the above field, please enter the specific IP address you get from ISP and the following IP subnet mask and gateway address.

IP Subnet Mask: The default is 0.0.0.0. User can change it to other such as 255.255.255.0. Type the subnet mask assigned to you by your ISP (if given).

Gateway: Enter the specific gateway IP address you get from ISP.

NAT: Select Enable if you use this router to hold a group of PCs to get access to the internet.

Dynamic Route:

- ▶ **RIP Version:** (Routing Information protocol) Select this option to specify the RIP version, including RIP-1, RIP-2.
- ▶ **RIP Direction:** Select this option to specify the RIP direction.
 - **None** is for disabling the RIP function.
 - **Both** means the router will periodically send routing information and accept routing information then incorporate into routing table.
 - **IN only** means the router will only accept but will not send RIP packet.
 - **OUT only** means the router will only send but will not accept RIP packet.

IGMP Proxy: IGMP (Internet Group Multicast Protocol) is a network-layer protocol used to establish membership in a Multicast group. Choose whether enable IGMP proxy.

[IPv6 options](#) (only when choose IPv4/IPv6 or just IPv6 in IP version field above):

IPv6 Address: Type the WAN IPv6 address from your ISP.

Obtain IPv6 DNS: Choose if you want to obtain DNS automatically.

Primary/Secondary: if you choose Disable in the Obtain IPv6 DNS field, please type the exactly primary and secondary DNS.

MLD Proxy: MLD (Multicast Listener Discovery Protocol) is to IPv6 just as IGMP to IPv4. It is a Multicast Management protocol for IPv6 multicast packets.

When router's Internet configuration is finished successfully, you can go to status to get the connection information.

❖ 3G/4G-LTE

Internet	
WAN Interface	3G/4G-LTE ▼
Status	<input checked="" type="radio"/> Activated <input type="radio"/> Deactivated
Usage Allowance ▶	<input type="checkbox"/> Enable
IP Pass-Through Mode	<input type="checkbox"/> Enable
Network Mode	Automatic ▼
PLMN Selection	Operator Numeric <input type="text"/> RAT <input type="text"/> <input type="button" value="Scan"/>
TEL No.	*99***1#
Dual APN	Single APN ▼
APN	internet
Username	<input type="text"/>
Password	<input type="text"/>
PIN	<input type="text"/>
Connection	<input checked="" type="radio"/> Always On (Recommended)
Keep Alive	<input type="radio"/> Yes <input checked="" type="radio"/> No
Keep Alive IP	<input type="text"/>
Default Route	<input checked="" type="radio"/> Yes <input type="radio"/> No
NAT	Enable ▼
SMS Control ▶	Disabled
<input type="button" value="Save"/>	

Status: Choose Activated to enable the 3G/4G-LTE connection.

IP Pass-Through Mode: When **enabled**, BEC 6300VNL is in bridge mode and will not obtain a WAN IP address, features such as routing capabilities, NAT, firewall, etc., will be disabled by default. However, the client router behind the BEC 6300VNL can get a WAN IP address instead.

When **disabled**, BEC 6300VNL is in router mode that it handles a WAN IP address and all routing-related features become available.

LTE Mode (This feature is not supported in some LTE modules): Display current selected LTE frequency band. To change the band, please click “**LTE Band**” to access to the band selection page.

LTE Band

LTE Band: A list of available LTE bands to choose from.

LTE Mode	
Parameters	
LTE Band	B12 ▼
***Please save config and restart to activate the setting. Please make sure device had get WAN IP, then config this feature.	
<input type="button" value="Apply"/>	<input type="button" value="Save Config & Restart"/>

LTE Antenna Diversity (This feature is not supported in some LTE modules): When **enabled**, the auxiliary antenna will be activated. With **disabled**, only the primary antenna is receiving and transmitting data.

To change it, please click “**LTE Antenna Diversity**” to access to the LTE antenna diversity selection page.

NOTE: When using Yagi antenna, please **DISABLE** the Antenna Diversity feature for utmost performance.

Password length is up to 10 characters. (Valid characters: 0~9, A~Z and a~z)

Example:

6300VNL obtains the phone number, +513 123 4567, on the SIM card

1. Send a text message, **reboot#<password>**, to +513 123 4567. 6300VNL will reboot the system upon receiving of this text message.
2. Send a text message, ***60**, to +513 123 4567. 6300VNL will send the current 3G/ 4G status information back including IMEI number, System up time, Network mode, Signal strength, WAN IP, and Connection time.

When router's Internet configuration is finished successfully, you can go to the **Status** to check connection information.

3G/4G-LTE via USB

Configuration

Internet

WAN Interface	3G/4G-LTE USB ▼
Status	<input type="radio"/> Activated <input checked="" type="radio"/> Deactivated
IP Pass-Through Mode	<input type="checkbox"/> Enable
Network Mode	Automatic ▼
TEL No.	*99***1#
Dual APN	Single APN ▼
APN	internet
Username	
Password	
PIN	
Connection	<input checked="" type="radio"/> Always On (Recommended)
Keep Alive	<input type="radio"/> Yes <input checked="" type="radio"/> No
Keep Alive IP	
Default Route	<input checked="" type="radio"/> Yes <input type="radio"/> No
NAT	Enable ▼

Save

Status: Choose Activated to enable the 3G/4G-LTE connection.

IP Pass-Through Mode: When **enabled**, BEC 6300VNL is in bridge mode and will not obtain a WAN IP address, features such as routing capabilities, NAT, firewall, etc., will be disabled by default. However, the client router behind the BEC 6300VNL can get a WAN IP address instead.

When **disabled**, BEC 6300VNL is in router mode that it handles a WAN IP address and all routing-related features become available.

Network Mode: There are 8 options of service standards: “Automatic”, “UMTS 3G only”, “GSM 2G Only”, “UMTS 3G Preferred”, “GSM 2G Preferred”, “GSM and UMTS Only”, “LTE Only”, “GSM, UMTS, LTE”. If you are not sure which mode to use, you may select **Automatic** to auto detect the best mode for you.

TEL No.: The dial string to make a GPRS / 3G/4G-LTE user internetworking call. It may provide by your mobile service provider.

Dual APN: BEC 6300VNL can support up to two (2) APNs. Select **Single** or **Dual APN**.

APN: An APN is similar to a URL on the WWW, it is what the unit makes a GPRS / UMTS call. The service provider is able to attach anything to an APN to create a data connection, requirements for APNs varies between different service providers. Most service providers have an internet portal which they use to connect to a DHCP Server, thus giving you access to the internet i.e. some 3G operators use the APN ‘internet’ for their portal. The default value is “internet”.

Username/Password: Enter the username and password provided by your service provider. The username and password are case sensitive.

PIN: PIN stands for Personal Identification Number. A PIN code is a numeric value used in certain

systems as a password to gain access, and authenticate. In mobile phones a PIN code locks the SIM card until you enter the correct code. If you enter the PIN code incorrectly into the phone 3 times in a row, then the SIM card will be blocked and you will require a PUK code from your network/service provider.

Connection: Default set to Always on to keep an always-on 3G/4G-LTE connection.

Keep Alive: Select **Yes** to keep the 3G/4G-LTE connection always on.

Keep Alive IP: Enter the IP address that the router can ping the IP to find whether the connection is on or not, if not, router will recover the connection.


Default Route: Select **Yes** to use this interface as default route interface.

NAT: Select this option to Disabled/Enable the NAT (Network Address Translation) function. Enable NAT to grant multiples devices in LAN to access to the Internet through a single WAN IP.

When router's Internet configuration is finished successfully, you can go to the Status to check connection information.

LAN

A Local Area Network (LAN) is a shared communication system to which many computers are attached and is limited to the immediate area, usually the same building or floor of a building.

Configuration


LAN

IPv4 Parameters

IP Address

192.168.1.254

IP Subnet Mask

255.255.255.0

Alias IP Address

0.0.0.0

(0.0.0.0 means to close the alias ip)

Alias IP Subnet Mask

0.0.0.0

IGMP Snooping

☐ Activated
☒ Deactivated

Dynamic Route

RIP1
Direction: None

DHCPv4 Server

DHCPv4 Server

☐ Disabled
☒ Enabled
☐ Relay

Start IP

192.168.1.100

IP Pool Count

20

Lease Time

86400

seconds (0 sets to default value of 259200)

Physical Ports

☒ LAN1
☒ LAN2
☒ LAN3
☒ WLAN1

DNS Relay

☒ Automatically
☐ Manually

Primary DNS

Secondary DNS

Fixed Host

IP Address

MAC Address

IPv6 Parameters

Interface Address/Prefix Length

/

MLD Snooping

☐ Activated
☒ Deactivated

DHCPv6 Server

DHCPv6 Server

☐ Disable
☒ Enable

DHCPv6 Server Type

☒ Stateless
☐ Stateful

Start Interface ID

End Interface ID

Lease Time

seconds(0 sets to default value of 4800)

Router Advertisements

☐ Disable
☒ Enable

Save

Fixed Host List

Index	IP	MAC	Drop
-------	----	-----	------

IPv4 Parameters

IP Address: Enter the IP address of Router in dotted decimal notation, for example, 192.168.1.254 (factory default).

IP Subnet Mask: The default is 255.255.255.0. User can change it to other such as 255.255.255.128.

Alias IP Address: This is for local networks virtual IP interface. Specify an IP address on this virtual interface.

Alias IP Subnet Mask: Specify a subnet mask on this virtual interface.

IGMP Snooping: Select **Activated** to enable IGMP Snooping function, Without IGMP snooping, multicast traffic is treated in the same manner as broadcast traffic - that is, it is forwarded to all ports. With IGMP snooping, multicast traffic of a group is only forwarded to ports that have members of that group.

Dynamic Route:

- ▶ **RIP Version:** (Routing Information protocol) Select this option to specify the RIP version, including RIP-1, RIP-2.
- ▶ **RIP Direction:** Select this option to specify the RIP direction.
 - **None** is for disabling the RIP function.
 - **Both** means the router will periodically send routing information and accept routing information then incorporate into routing table.
 - **IN only** means the router will only accept but will not send RIP packet.
 - **OUT only** means the router will only send but will not accept RIP packet.

DHCPv4 Server

DHCP (Dynamic Host Configuration Protocol) allows individual clients to obtain TCP/IP configuration at start-up from a server.

DHCPv4 Server	
DHCPv4 Server	<input type="radio"/> Disabled <input checked="" type="radio"/> Enabled <input type="radio"/> Relay
Start IP	<input type="text" value="192.168.1.100"/>
IP Pool Count	<input type="text" value="20"/>
Lease Time	<input type="text" value="86400"/> seconds (0 sets to default value of 259200)
Physical Ports	<input checked="" type="checkbox"/> LAN1 <input checked="" type="checkbox"/> LAN2 <input checked="" type="checkbox"/> LAN3 <input checked="" type="checkbox"/> WLAN1
DNS Relay	<input checked="" type="radio"/> Automatically <input type="radio"/> Manually
Primary DNS	<input type="text"/>
Secondary DNS	<input type="text"/>

DHCPv4 Server: If set to **Enabled**, your BEC 6300VNL can assign IP addresses, default gateway and DNS servers to the DHCP client.

- ▶ If set to **Disabled**, the DHCP server will be disabled.
- ▶ If set to **Relay**, the BEC 6300VNL acts as a surrogate DHCP server and relays DHCP requests and responses between the remote server and the clients. Enter the IP address of the actual, remote DHCP server in the Remote DHCP Server field in this case.
- ▶ When DHCP is used, the following items need to be set.

Start IP: This field specifies the first of the contiguous addresses in the IP address pool.

IP Pool Count: This field specifies the count of the IP address pool.

Lease Time: The current lease time of client.

Physical Ports: Select to determine if the DHCPv4 server is applicable to the specific port or ports. By default, all ports can obtain local IP from DHCPv4 server.

DNS Relay:

- ▶ Select **Automatic** detection or
- ▶ **Manually** specific Primary and Secondary DNS IP addresses

Primary / Secondary DNS Server: Enter the IP addresses of the DNS servers. The DNS servers are passed to the DHCP clients along with the IP address and the subnet mask.

Fixed Host


In this field, users can map the specific IP (must in the DHCP IP pool) for some specific MAC, and this information can be listed in the following table.

Fixed Host	
IP Address	<input type="text"/>
MAC Address	<input type="text"/>

IP Address: Enter the specific IP. For example: 192.168.1.110.

MAC Address: Enter the responding MAC. For example: 00:0A:F7:45:6D:ED

When added, you can see the ones listed as showed below:

Fixed Host Listing			
Index	IP	MAC	Drop
1	192.168.1.102	23:24:5B:4B:22:33	

IPv6 parameters

The IPv6 address composes of two parts, thus, the prefix and the interface ID.

IPv6 Parameters	
Interface Address/Prefix Length	<input type="text"/> / <input type="text"/>
MLD Snooping	<input type="radio"/> Activated <input checked="" type="radio"/> Deactivated
DHCPv6 Server	
DHCPv6 Server	<input type="radio"/> Disable <input checked="" type="radio"/> Enable
DHCPv6 Server Type	<input checked="" type="radio"/> Stateless <input type="radio"/> Stateful
Start Interface ID	<input type="text"/>
End Interface ID	<input type="text"/>
Lease Time	<input type="text"/> seconds(0 sets to default value of 4800)
Router Advertisements	<input type="radio"/> Disable <input checked="" type="radio"/> Enable

Interface Address / Prefix Length: Enter a static LAN IPv6 address. If you are not sure what to do with this field, please leave it empty as if contains false information it could result in LAN devices not being able to access other IPv6 device. Router will take the same WAN's prefix to LAN side if the field is empty.

MLD Snooping: Similar to IGMP Snooping, but applicable for IPv6.

DHCPv6 Server

There are two methods to dynamically configure IPv6 address on hosts, **Stateless** and **Stateful**.

Stateless auto-configuration requires no manual configuration of hosts, minimal (if any) configuration of routers, and no additional servers. The stateless mechanism allows a host to generate its own addresses using a combination of locally available information (MAC address) and information (prefix) advertised by routers. Routers advertise prefixes that identify the subnet(s) associated with a link, while hosts generate an "interface identifier" that uniquely identifies an interface on a subnet. An

address is formed by combining the two. When using stateless configuration, you needn't configure anything on the client.

Stateful configuration, for example using DHCPv6 (which resembles its counterpart DHCP in IPv4.) In the stateful auto configuration model, hosts obtain interface addresses and/or configuration information and parameters from a DHCPv6 server. The Server maintains a database that keeps track of which addresses have been assigned to which hosts.

DHCPv6 Server: Check whether to enable DHCPv6 server.

DHCPv6 Server Type: Select Stateless or Stateful. When DHCPv6 is enabled, this parameter is available.

- ▶ **Stateless:** If selected, the PCs in LAN are configured through RA mode, thus, the PCs in LAN are configured through RA mode, to obtain the prefix message and generate an address using a combination of locally available information (MAC address) and information (prefix) advertised by routers, but they can obtain such information like DNS from DHCPv6 Server.
- ▶ **Stateful:** If selected, the PCs in LAN will be configured like in IPv4 mode, thus obtain addresses and DNS information from DHCPv6 server.

Start interface ID: enter the start interface ID. The IPv6 address composed of two parts, thus, the prefix and the interface ID. Interface is like the Host ID compared to IPv4.


End interface ID: enter the end interface ID.

Leased Time (hour): the leased time, similar to leased time in DHCPv4, is a time limit assigned to clients, when expires, the assigned ID will be recycled and reassigned.

Router Advertisement: Check to Enable or Disable the Issue Router Advertisement feature. This feature is to send Router Advertisement messages periodically which would multicast the IPv6 Prefix information (similar to v4 network number 192.168.1.0) to all LAN devices if the field is enabled. We suggest enabling this field.

Wireless

This section introduces the wireless LAN and some basic configurations. Wireless LANs can be as complex as a number of computers with wireless LAN cards communicating through access points which bridge network traffic to the wired LAN.

Configuration


Wireless

Access Point Settings

Access Point

☒ Activated
☐ Deactivated

AP MAC Address

00:04:ED:15:07:00

Wireless Mode

802.11b+g+n

Channel

UNITED STATES
06
Current Channel : 6

Beacon Interval

100 (range: 20~1000)

RTS/CTS Threshold

2347 (range: 1500~2347)

Fragmentation Threshold

2346 (range: 256~2346, even numbers only)

DTIM Interval

1 (range: 1~255)

TX Power

100 (range:1~100)

IGMP Snooping

☒ Yes
☐ No

11n Settings

Channel Bandwidth

40 MHz

Guard Interval

Auto

MCS

Auto

SSID Settings

Available SSID

1

SSID Index

☒ SSID1

SSID

wlan-ap_715

Broadcast SSID

☒ Yes
☐ No

SSID Activated

Always

WPS Settings

Use WPS

☒ Yes
☐ No

WPS State

Configured

WPS Mode

☐ PIN code
☒ PBC

Security Settings

Security Type

Mixed WPA2/WPA-PSK

WPA Algorithms

TKIP+AES

Pre-Shared Key

E5C7EB09 (8~63 characters or 64 Hex string)

Key Renewal Interval

600 seconds (10 ~ 4194303)

WDS Settings

AP MAC Address

00:04:ED:15:07:00

WDS Mode

☐ Activated
☒ Deactivated

WDS Peer MAC #1

00:00:00:00:00:00

WDS Peer MAC #2

00:00:00:00:00:00

WDS Peer MAC #3

00:00:00:00:00:00

WDS Peer MAC #4

00:00:00:00:00:00

Save

Access Point Settings

Access Point: Default setting is set to **Activated**. If you want to close the wireless interface, select **Deactivated**.

AP MAC Address: The MAC address of wireless AP.

Wireless Mode: The default setting is **802.11b+g+n** (Mixed mode). If you do not know or have both 11g and 11b devices in your network, then keep the default in **mixed mode**. From the drop-down manual, you can select **802.11g** if you have only 11g card. If you have only 11b card, then select **802.11b** and if you only have 802.11n then select **802.11n**.

Channel: The range of radio frequencies used by IEEE 802.11b/g/n wireless devices is called a channel. There are Regulation Domains and Channel ID in this field. The Channel ID will be different based on Regulation Domains. Select a channel from the drop-down list box.

Beacon interval: The Beacon Interval value indicates the frequency interval of the beacon. Enter a value between 20 and 1000. A beacon is a packet broadcast by the Router to synchronize the wireless network.

RTS/CTS Threshold: The RTS (Request To Send) threshold (number of bytes) for enabling RTS/CTS handshake. Data with its frame size larger than this value will perform the RTS/CTS handshake. Enter a value between 1500 and 2347.

Fragmentation Threshold: The threshold (number of bytes) for the fragmentation boundary for directed messages. It is the maximum data fragment size that can be sent. Enter a value between 256 and 2346, even number only.

DTIM Interval: This value, between 1 and 255, indicates the interval of the Delivery Traffic Indication Message (DTIM).

TX Power: The transmission power of the antennas, ranging from 1-100, the higher the more powerful of the transmission performance.

IGMP Snooping: Enable or disable the IGMP Snooping function for wireless. Without IGMP snooping, multicast traffic is treated in the same manner as broadcast traffic - that is, it is forwarded to all ports. With IGMP snooping, multicast traffic of a group is only forwarded to ports that have members of that group."

11n Settings

Channel Bandwidth: Select either **20 MHz** or **20/40 MHz** for the channel bandwidth. The wider the Channel bandwidth the better the performance will be.

Extension Channel: This is for the 40MHz clients to use and is predefined to "**Above the control channel**", not configurable.

Guard Interval: Select either **400nsec** or **800nsec** for the guard interval. The guard interval is here to ensure that data transmission do not interfere with each other. It also prevents propagation delays, echoing and reflections. The shorter the Guard Interval, the better the performance will be. We recommend users to select Auto.

MCS (Modulation and Coding Scheme): There are options **0~15** and **AUTO** to select from. **AUTO** is recommended.

SSID Settings

Available SSID: User can determine how many virtual SSIDs to be used. Default is 1, maximum is 4.

SSID Index: Select the number of SSIDs you want to use; up to 4 SSIDs are available in the list.

SSID: The SSID is the unique name of a wireless access point (AP) to be distinguished from another. For security propose, change the default **wlan-ap** to a unique ID name to the AP which is already built-in to the router's wireless interface. Make sure your wireless clients have exactly the SSID as the device, in order to get connected to your network.

Broadcast SSID: Select **Yes** to make the SSID visible so a station can obtain the SSID through passive scanning. Select **No** to hide the SSID in so a station cannot obtain the SSID through passive scanning.

Client Isolation: (Known as AP Isolation) After enabling this feature, all Wi-Fi clients connect to the same Access Point, in the same local wireless network, cannot interact with each another.

SSID Activated: Select the time period during which the SSID is active. Default is always which means the SSID will be active all the time without time control. See [Time Schedule](#) to set the timeslot to flexibly control when the SSID functions.

WPS Settings

WPS (Wi-Fi Protected Setup) feature is a standard protocol created by Wi-Fi Alliance. This feature greatly simplifies the steps needed to create a Wi-Fi network for a residential or an office setting. WPS supports 2 types of configuration methods which are commonly known among consumers: [PIN Method](#) (Personal Information Number) & [PBC Method](#) (Push Button Configuration).

Use WPS: Enable this feature by choosing "YES" radio button.

WPS State: Display whether the WPS is **configured** or **unconfigured**.

WPS Mode: Select the mode which to start WPS, choose between **PIN Code** and **PBC** (Push Button). Selecting **Pin Code** mode will require you to know the enrollee PIN code.

To future understand the two modes of configuration; please refer to the example of the **Wi-Fi Protected Setup**.

Security Settings

Security Type: You can disable or enable wireless security for protecting wireless network. The default type of wireless security is OPEN and to allow all wireless stations to communicate with the access points without any data encryption.

To prevent unauthorized wireless stations from accessing data transmitted over the network, the router offers secure data encryption, known as WEP and WPA.

There are five alternatives to select from: WEP 64-bit, WEP 128-bit, WPA-PSK, WPA2-PSK, and Mixed WPA/WPA2-PSK. If you require high security for transmissions, please select WPA-PSK, WPA2-PSK or WPA/WPA2-PSK.

► WEP

Security Settings	
Security Type	WEP 64-bit
WEP Authentication Method	Both
WEP 64-bit	For each key, please enter either (1) 5 characters, or (2) 10 characters ranging from 0~9, a, b, c, d, e, f.
<input checked="" type="radio"/> Key#1	<input type="text"/>
<input type="radio"/> Key#2	<input type="text"/>
<input type="radio"/> Key#3	<input type="text"/>
<input type="radio"/> Key#4	<input type="text"/>

WEP Authentication Method: WEP authentication method, there are two methods of authentication used, Open System authentication (OPENWEB) and Share Key authentication (SHAREDWEB). We suggest you select OPENWEB.

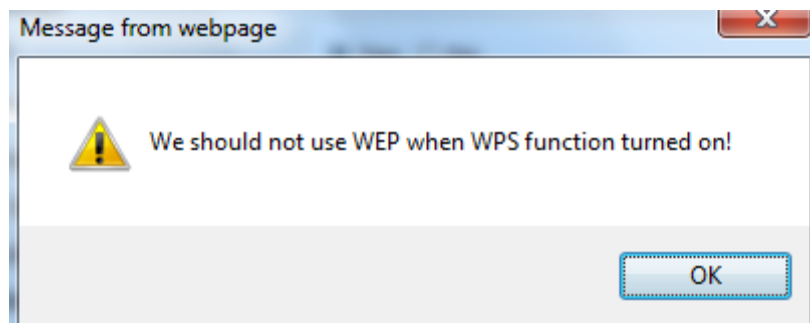
Key 1 to Key 4: Enter the key to encrypt wireless data. To allow encrypted data transmission, the WEP Encryption Key values on all wireless stations must be the same as the router. There are four keys for your selection. The input format is in HEX style, 5 and 13 HEX codes are required for 64-bitWEP and 128-bitWEP respectively.

If you chose **WEP 64-bit**, then enter any 5 ASCII characters or 10 hexadecimal characters ("0-9", "A-F").

If you chose **WEP 128-bit**, then enter 13 ASCII characters or 26 hexadecimal characters ("0-9", "A-F").

You must configure all four keys, but only one key can be activated at any one time. The default key is key 1.

NOTE: When you enable WPS function, this WEP function will be invalid. And if you select one of WEP-64Bits/ WEP-128Bits, the following prompt box will appear to notice you.



► WPA-PSK & WPA2-PSK

Security Type	WPA-PSK
WPA Algorithms	AES
Pre-Shared Key	0004ED596230 (8~63 characters or 64 Hex string)
Key Renewal Interval	3600 seconds (10 ~ 4194303)

WPA Algorithms: TKIP (Temporal Key Integrity Protocol) or AES (Advanced Encryption System) utilizes a stronger encryption method and incorporates Message Integrity Code (MIC) to provide protection against hackers.

Pre-Shared key: The key for network authentication. The input format should be 8-63 ASCII characters or 64 hexadecimal characters

Key Renewal Interval: The time interval for changing the security key automatically between wireless client and AP.

WDS Settings

WDS (Wireless distributed system) is a wireless access point mode that enables wireless link and communication with other access point. It is easy to be installed, just define the peer's MAC of the connected AP.

WDS Mode: select Activated to enable WDS feature and Deactivated to disable this feature.

MAC Address: Enter the AP MAC addresses (in XX:XX:XX:XX:XX:XX format) of the peer connected AP.

WDS Settings	
WDS Mode	<input checked="" type="radio"/> Activated <input type="radio"/> Deactivated
WDS Peer MAC #1	<input type="text" value="00:00:00:00:00:00"/>
WDS Peer MAC #2	<input type="text" value="00:00:00:00:00:00"/>
WDS Peer MAC #3	<input type="text" value="00:00:00:00:00:00"/>
WDS Peer MAC #4	<input type="text" value="00:00:00:00:00:00"/>

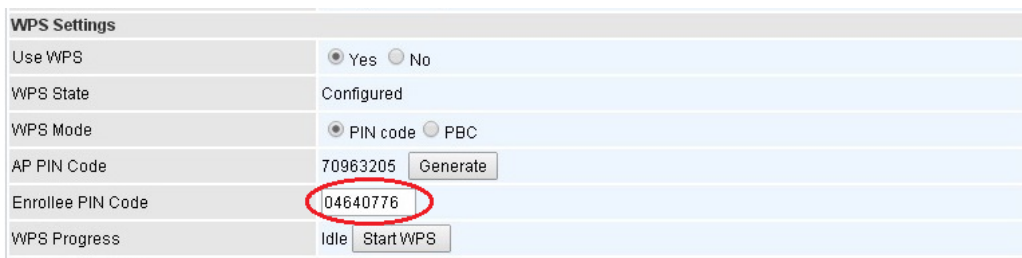
Example: WPS using PIN Method (Personal Information Number)

PIN Method – Configure 6300VNL as a Registrar

1. Jot down the client's Pin (e.g. 04640776) from the WPS utility (e.g. Ralink Utility)

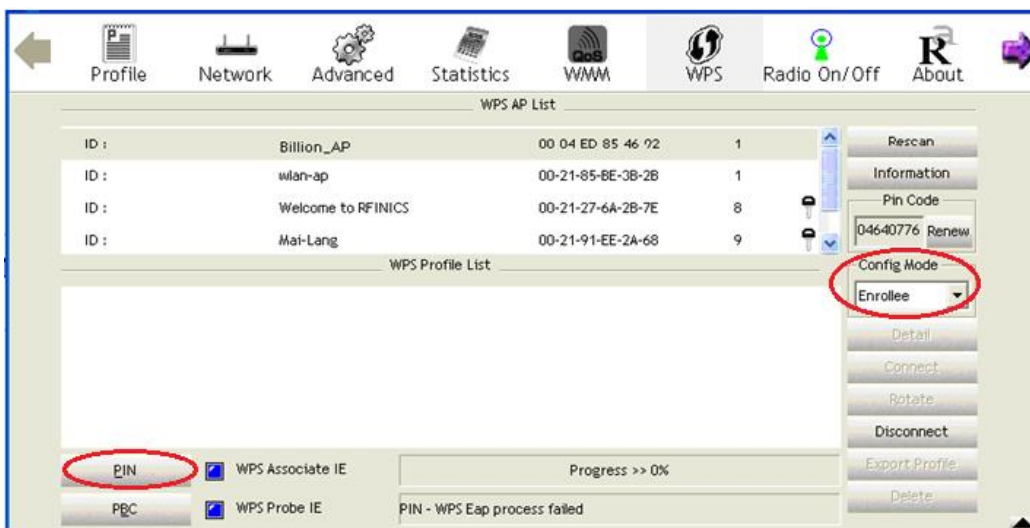


2. Enter the Enrollee (Client) PIN code and then press **Start WPS**.

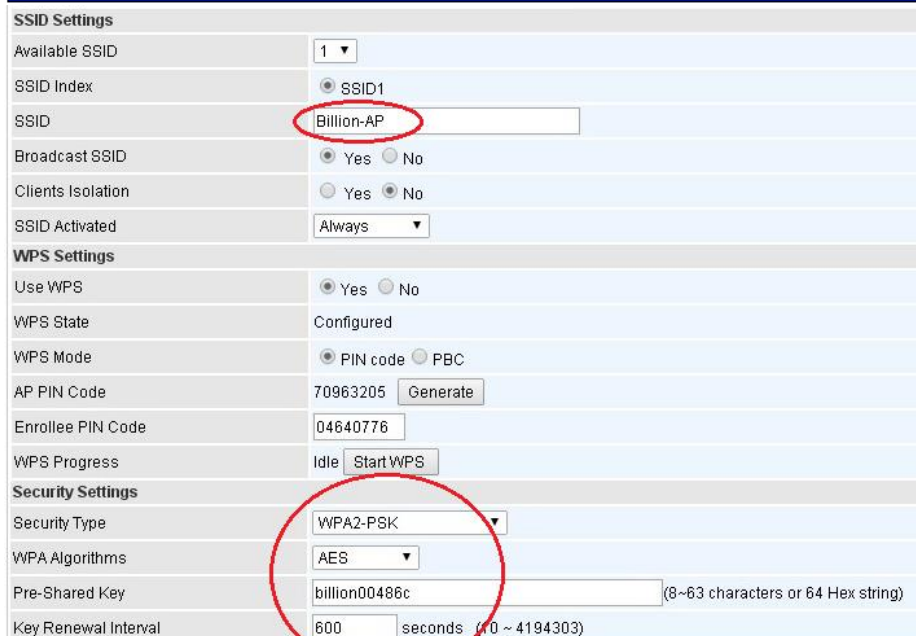
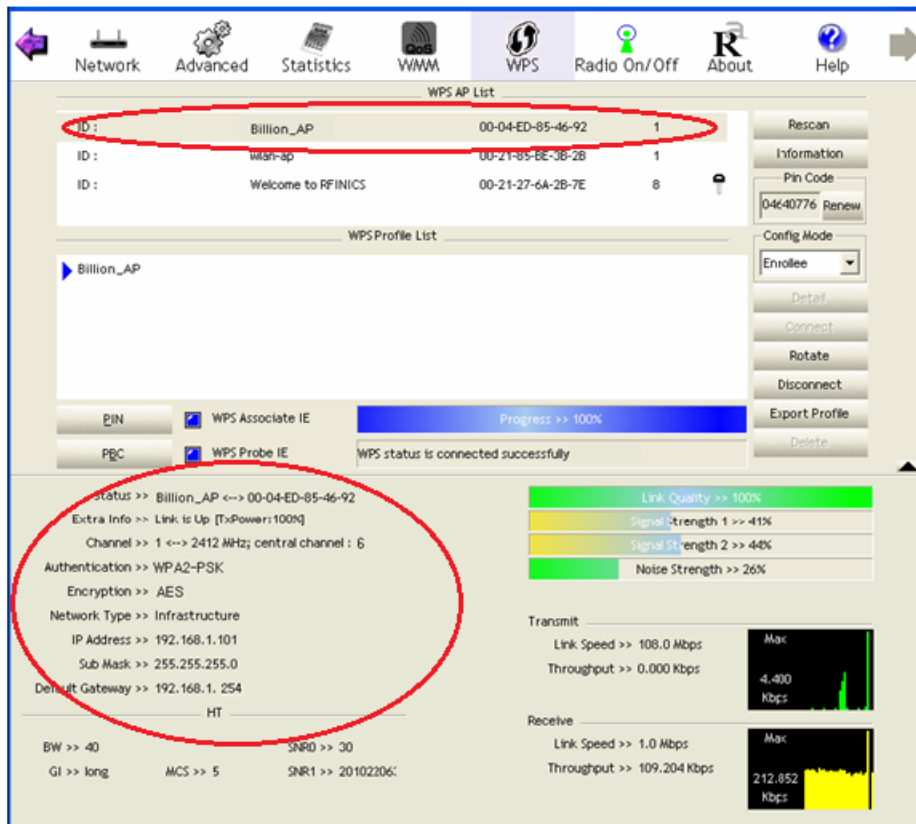


3. Go back to the wireless client's WPS utility (e.g. Ralink Utility).

Set the Config Mode as **Enrollee**, press the WPS button on the top bar, select the AP (e.g. Billion_AP) from the WPS AP List column. Then press the PIN button located on the middle left of the page to run the scan.



4. The client's SSID and security setting will now be configured to match the SSID and security setting of the registrar, the 6300VNL router.



PIN Method – Configure 6300VNL as an Enrollee

1. Jot down the AP PIN Code (e.g. 03454435) from the BEC 6300VNL. Press **Start WPS**.

WPS Settings	
Use WPS	<input checked="" type="radio"/> Yes <input type="radio"/> No
WPS State	Configured
WPS Mode	<input checked="" type="radio"/> PIN code <input type="radio"/> PBC
AP PIN Code	03454435 <input type="button" value="Generate"/>
Enrollee PIN Code	<input type="text"/>
WPS Progress	In progress <input type="button" value="Stop WPS"/>

2. Launch the wireless client's WPS utility (e.g. Ralink Utility). Set the Config Mode as Registrar. Enter the PIN number in the PIN Code (e.g. 03454435) column then choose the correct AP (e.g. Billion_AP) from the WPS AP List before pressing the PIN button to run the scan.

The screenshot shows the Ralink WPS utility interface. The top menu bar includes Network, Advanced, Statistics, WPS, Radio On/Off, About, and Help. The main window is divided into several sections:

- WPS AP List:** A table listing available APs. The first entry, "Billion_AP", is circled in red. Its details are: ID: 0x0000, SSID: Welcome to RFINICS, BSSID: 00-04-ED-85-46-92, and Channel: 1.
- WPS Profile List:** A section showing the selected profile, "Billion_AP".
- WPS Config Mode:** A dropdown menu set to "Registrar", which is circled in red.
- WPS PIN Code:** A text field containing "03454435", which is circled in red.
- WPS Status:** A section showing the progress of the WPS scan. The "PIN" button is circled in red, and the progress bar indicates "Progress >> 100%".
- WPS Details:** A section showing various network parameters, including Link Quality (100%), Signal Strength (24%), Noise Strength (26%), and Link Speed (150.0 Mbps).

3. The router's (AP's) SSID and security setting will now be configured to match the SSID and security setting of the registrar (client).

The screenshot shows the WPS configuration page. At the top, there are tabs for Network, Advanced, Statistics, WMM, WPS, Radio On/Off, About, and Help. The WPS tab is selected. Below the tabs, there is a 'WPS AP List' table with columns for ID, Name, MAC, and Signal. The table shows three entries: 'Billion_AP' (ID: 0x0000, MAC: 00-04-ED-85-46-92, Signal: 1), 'Welcome to RFINICS' (ID: , MAC: 00-21-27-6A-2B-7E, Signal: 8), and 'Mai-Lang' (ID: , MAC: 00-21-91-EE-2A-68, Signal: 9). To the right of the table are buttons for Rescan, Information, Pin Code, and a '03454435' button with a 'Renew' button next to it. Below the table is a 'WPS Profile List' section with a 'Billion_AP' profile. To the right of the profile list are buttons for Config Mode, Registrar, Detail, Connect, Rotate, Disconnect, and Export Profile. At the bottom, there are buttons for PIN and PBC, and checkboxes for 'WPS Associate IE' and 'WPS Probe IE'. A progress bar shows 'Progress >> 100%'. Below the progress bar, it says 'WPS status is connected successfully'. On the right side, there are status indicators: Link Quality >> 100%, Signal Strength 1 >> 24%, Signal Strength 2 >> 85%, and Noise Strength >> 26%. At the bottom, there are Transmit and Receive sections showing Link Speed and Throughput.

The screenshot shows the SSID and Security Settings page. The SSID Settings section includes SSID Num (1), SSID Index (SSID 1), SSID (Billion_AP), Broadcast SSID (Yes), SSID Activated (Always), and WPS Settings (Use WPS: Yes, WPS State: Configured, WPS Mode: PIN code, AP PIN Code: 03454435, Enrollee PIN Code: , WPS Progress: In progress). The Security Settings section includes Security Type (WPA2-PSK), WPA Algorithms (AES), Pre-Shared Key (12345678), and Key Renewal Interval (3600 seconds). Red circles highlight the SSID field and the Security Type and WPA Algorithms fields.

Example: WPS using PBC Method (Push Button Configuration)

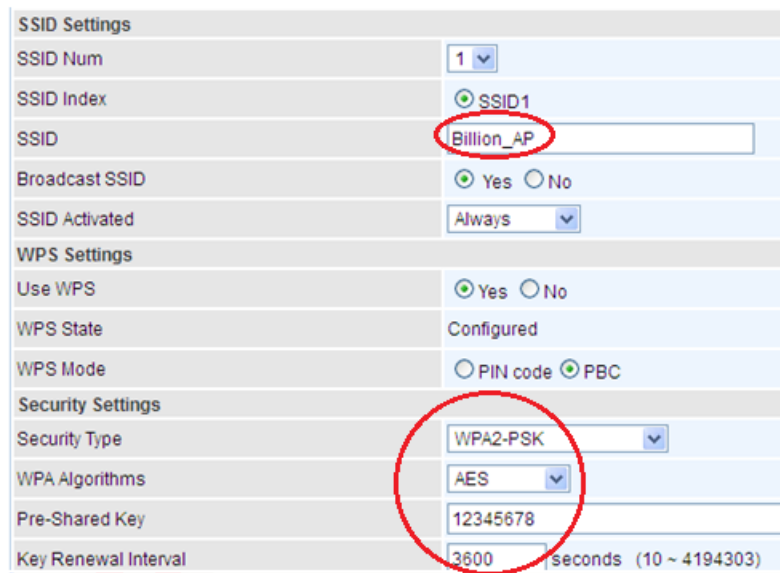
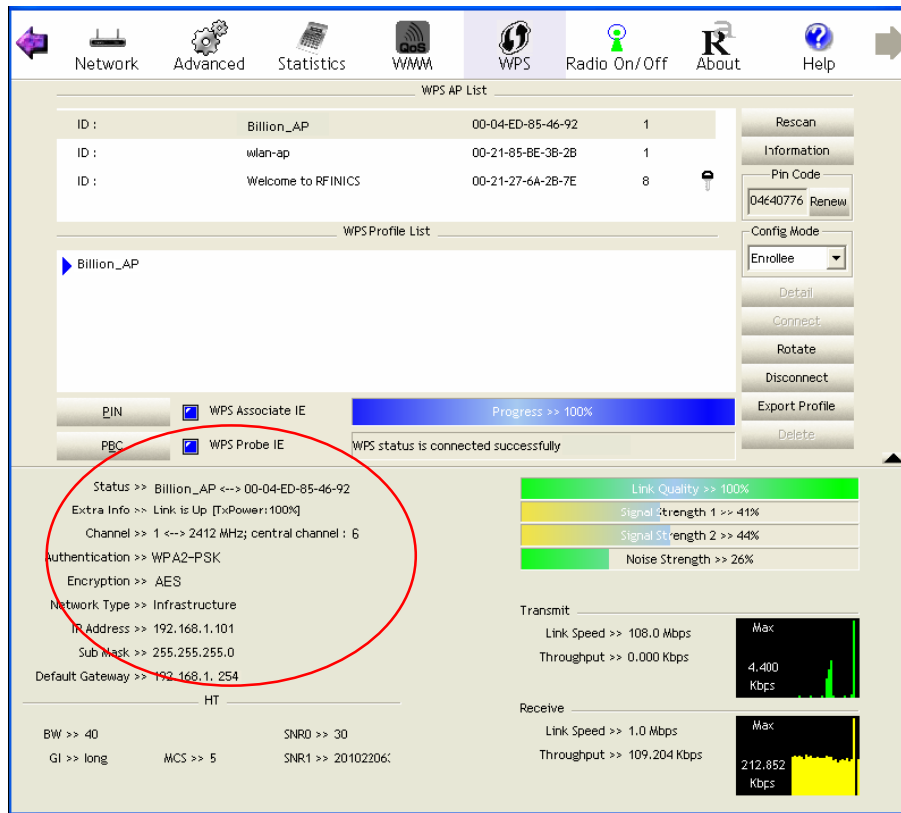
1. Click the **PBC** radio button and click **Save** to apply the settings

SSID Settings	
SSID Num	1
SSID Index	<input checked="" type="radio"/> SSID1
SSID	Billion_AP
Broadcast SSID	<input checked="" type="radio"/> Yes <input type="radio"/> No
SSID Activated	Always
WPS Settings	
Use WPS	<input checked="" type="radio"/> Yes <input type="radio"/> No
WPS State	Configured
WPS Mode	<input type="radio"/> PIN code <input checked="" type="radio"/> PBC
Security Settings	

2. Launch the wireless client's WPS Utility (e.g. Ralink Utility). Set the Config Mode as **Enrollee**. Then press the **WPS button** and choose the correct AP (e.g. **Billion_AP**) from the WPS AP List section before pressing the **PBC** button to run the scan.

Profile	Network	Advanced	Statistics	WMM	WPS	Radio On/Off	About
WPS AP List							
ID :	Billion_AP	00 04 ED 85 46 92	1				
ID :	wlan-ap	00-21-85-BE-3B-2B	1				
ID :	Welcome to RFINICS	00-21-27-6A-2B-7E	8				
ID :	Mai-Lang	00-21-91-EE-2A-68	9				
WPS Profile List							
<div> <div> PIN </div> <div> <input checked="" type="checkbox"/> WPS Associate IE </div> <div> Progress >> 0% </div> </div> <div> <div> PBC </div> <div> <input checked="" type="checkbox"/> WPS Probe IE </div> <div> PIN - WPS Eap process failed </div> </div>							
<div> Rescan </div> <div> Information </div> <div> Pin Code </div> <div> 04640776 Renew </div> <div> Config Mode </div> <div> Enrollee </div> <div> Detail </div> <div> Connect </div> <div> Rotate </div> <div> Disconnect </div> <div> Export Profile </div> <div> Delete </div>							

3. When the PBC button is pushed, a wireless communication will be established between your router and the PC. The client's SSID and security setting will now be configured to match the SSID and security setting of the router.



Wireless MAC Filter

The MAC filter screen allows you to configure the router to give exclusive access to up to 8 devices (Allow Association) or exclude up to 8 devices from accessing the router (Deny Association). Every Ethernet device has a unique MAC (Media Access Control) address. The MAC address is assigned at the factory and consists of six pairs of hexadecimal characters, for example, 00:AA:BB:00:00:02.

You need to know the MAC address of the devices you wish to filter.

Configuration

Wireless MAC Address Filter

SSID Index: ☒ SSID1

Active: ☐ Activated ☒ Deactivated

Action: Allow the follow Wireless LAN station(s) association.

MAC Address:

Save

Wireless MAC Address Filter Listing

Index	MAC Address	Edit	Delete
-------	-------------	------	--------

SSID Index: Select the targeted SSID you want the MAC filter rules to apply to.

Active: Select **Activated** to enable MAC address filtering.

Action: Define the filter action for the list of MAC addresses in the MAC address filter table.

Select **Deny** to block access to the AP, MAC addresses not listed will be allowed to access the router. Select **Allow** to permit access to the router, MAC addresses not listed will be denied access to the router.

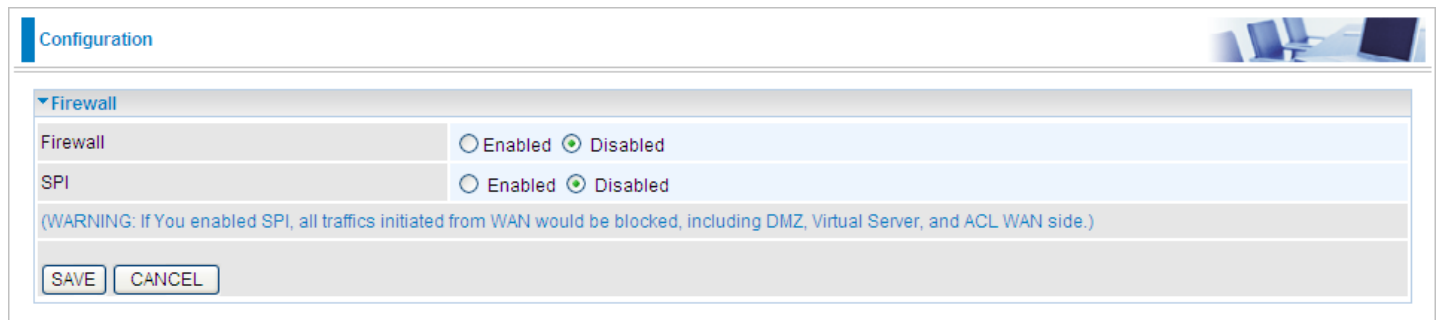
MAC Address: Enter the MAC addresses (in XX:XX:XX:XX:XX:XX format) of the wireless station that are allowed or denied access to the specified in these address fields.

Advanced Setup

Advanced Step provides advanced features including **Firewall**, **Routing**, **NAT**, **Static DNS**, **QoS**, **Internet Grouping**, and **Time Schedule** for advanced users.

Firewall

Your router includes a firewall for helping to prevent attacks from hackers. In addition to this, when using NAT (Network Address Translation) the router acts as a “natural” Internet firewall, since all PCs on your LAN use private IP addresses that cannot be directly accessed from the Internet.



Configuration

▼ Firewall

Firewall	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
SPI	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled

(WARNING: If You enabled SPI, all traffics initiated from WAN would be blocked, including DMZ, Virtual Server, and ACL WAN side.)

SAVE CANCEL

Firewall: To automatically detect and block Denial of Service (DoS) attacks, such as Ping of Death, SYN Flood, Port Scan and Land Attack.

- ▶ **Enabled:** It activates your firewall function.
- ▶ **Disabled:** It disables the firewall function.

SPI: If you enabled SPI, all traffics initiated from WAN would be blocked, including DMZ, Virtual Server, and ACL WAN side.

- ▶ **Enabled:** It activates your SPI function.
- ▶ **Disabled:** It disables the SPI function.

Routing

This is static route feature. You are equipped with the capability to control the routing of all the traffic across your network. With each routing rule created, user can specifically assign the destination where the traffic will be routed to.

Configuration							
Routing Table							
#	Destination IP Address	Subnet Mask	Gateway IP Address	Metric	Interface	Edit	Drop
0	192.168.1.0	255.255.255.0	0.0.0.0	0	br0		
1	172.16.1.0	255.255.255.0	0.0.0.0	0	nas10_0		
2	127.0.0.0	255.255.0.0	0.0.0.0	0	lo		
3	239.0.0.0	255.0.0.0	0.0.0.0	0	br0		
4	239.0.0.0	255.0.0.0	0.0.0.0	0	eth0		
5	0.0.0.0	0.0.0.0	172.16.1.254	0	nas10_0		

Add Route

#: Item number

Destination IP Address: IP address of the destination network

Subnet Mask: The subnet mask of destination network.

Gateway IP Address: IP address of the gateway or existing interface that this route uses.

Metric: It represents the cost of transmission for routing purposes. The number need not be precise, but it must be between 1 and 15.

Interface: Media/channel selected to append the route.

Edit: Edit the route; this icon is not shown for system default route.

Drop: Drop the route; this icon is not shown for system default route.

Add Route

Configuration	
Static Route	
Destination IP Address	<input type="text" value="0.0.0.0"/>
Destination Subnet Mask	<input type="text" value="0.0.0.0"/>
Gateway IP Address / Interface	<input type="radio"/> <input type="text" value="0.0.0.0"/> <input checked="" type="radio"/> <input type="text" value="EWAN_0"/>
Metric	<input type="text" value="1"/>
<input type="button" value="Save"/> <input type="button" value="Back"/>	

Destination IP Address: This is the destination subnet IP address.

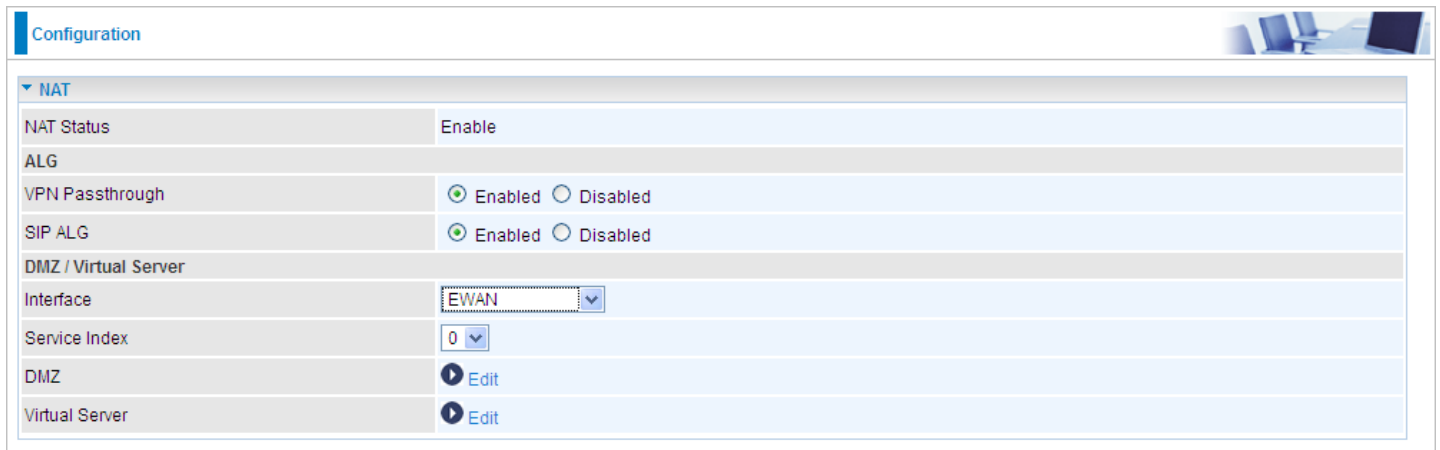
Destination Subnet Mask: The subnet mask of destination network.

Gateway IP Address/Interface: This is the gateway IP address or existing interface to which packets are to be forwarded.

Metric: It represents the cost of transmission for routing purposes. The number need not be precise, but it must be between 1 and 15.

NAT

The NAT (Network Address Translation) feature transforms a private IP into a public IP, allowing multiple users to access the internet through a single IP account, sharing the single IP address. NAT break the originally envisioned model of IP end-to-end connectivity across the internet so NAT can cause problems where IPSec/ PPTP encryption is applied or some application layer protocols such as SIP phones are located behind a NAT. And NAT makes it difficult for systems behind a NAT to accept incoming communications.



Configuration	
NAT	
NAT Status	Enable
ALG	
VPN Passthrough	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
SIP ALG	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
DMZ / Virtual Server	
Interface	EWAN
Service Index	0
DMZ	Edit
Virtual Server	Edit

NAT Status: Enabled. (Disabled if WAN connection is in **BRIDGE** mode)

VPN Passthrough: VPN pass-through is a feature of routers which allows VPN client on a private network to establish outbound VPNs unhindered.

SIP ALG: Enable the SIP ALG when SIP phone needs ALG to pass through the NAT. Disable the SIP ALG when SIP phone includes NAT-Traversal algorithm.

Interface: Select a WAN interface connection to allow external access to your internal network.

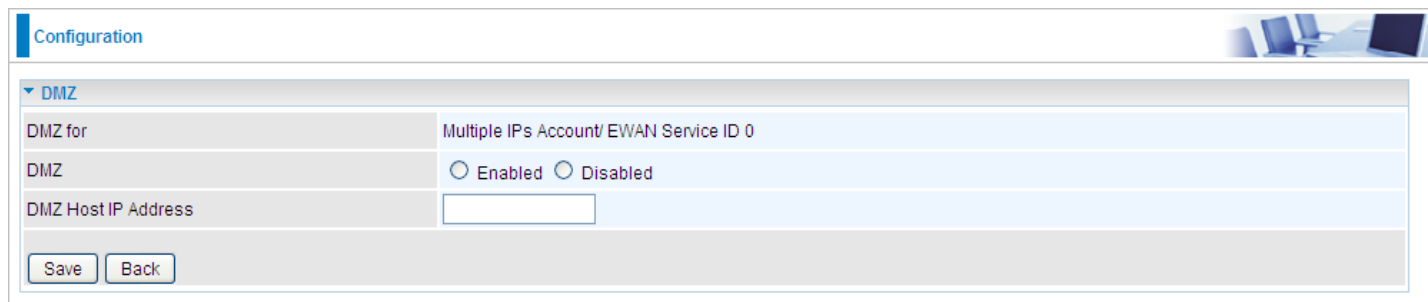
Service Index: Associated to EWAN interface marking each EWAN service (0-7), to select which EWAN service the DMZ and Virtual server are applied to.

Click **DMZ** [Edit](#) or **Virtual Server** [Edit](#) to move on to set the DMZ or Virtual Server parameters, which are represented in the following scenario.

DMZ

NOTE: This feature disables automatically if WAN connection is in BRIDGE mode.

The DMZ Host is a local computer exposed to the Internet. When setting a particular internal IP address as the DMZ Host, all incoming packets will be checked by the Firewall and NAT algorithms then passed to the DMZ host, when a packet received does not use a port number used by any other Virtual Server entries.



Configuration

DMZ

DMZ for: Multiple IPs Account/ EWAN Service ID 0

DMZ: ☒ Enabled ☐ Disabled

DMZ Host IP Address:

Save Back

DMZ for (via a WAN Interface): Allows outside network to connect in and communicate with internal LAN devices via this WAN interface

Note: Here you can see the Multiple IPs Account/EWAN Service ID 0. It is the interface set in the previous NAT page.

DMZ:

- ▶ **Enabled:** Activate the DMZ function.
- ▶ **Disabled:** Deactivate the DMZ function.

DMZ Host IP Address: Give a static IP address to the DMZ Host when **Enabled** radio button is checked. Be aware that this IP will be exposed to the WAN/Internet.

Select the **Save** button to apply your changes.

Virtual Server

NOTE: This feature disables automatically if WAN connection is in BRIDGE mode.

Virtual Server is also known as Port Forwarding that allows 6300VNL to direct all incoming traffic to the servers on the LAN.

Configure a virtual rule in 6300VNL for remote users accessing services such as Web or FTP services via the public (WAN) IP address that can be automatically redirected to local servers in the LAN network. Depending on the requested service (TCP/UDP port number), the device redirects the external service request to the appropriate server within the LAN network.

Configuration

Virtual Server

Virtual Server forMultiple IPs Account/ EWAN

ProtocolTCP

Start Port Number

End Port Number

Local IP Address

Start Port Number (Local)

End Port Number(Local)

SaveBack

Virtual Server Listing

Rule	Protocol	Start Port	End port	Local IP Address	Start Port Local	End Port Local	Edit	Drop
0	N/A	N/A	N/A	N/A	N/A	N/A		
1	N/A	N/A	N/A	N/A	N/A	N/A		
2	N/A	N/A	N/A	N/A	N/A	N/A		
3	N/A	N/A	N/A	N/A	N/A	N/A		
4	N/A	N/A	N/A	N/A	N/A	N/A		
5	N/A	N/A	N/A	N/A	N/A	N/A		
6	N/A	N/A	N/A	N/A	N/A	N/A		
7	N/A	N/A	N/A	N/A	N/A	N/A		
8	N/A	N/A	N/A	N/A	N/A	N/A		
9	N/A	N/A	N/A	N/A	N/A	N/A		

Virtual Server for: Indicate the related WAN interface which allows outside network to connect in and communicate.

Protocol: Choose the application protocol.

Start / End Port Number: Enter a port or port range you want to forward.

(Example: Start / End: 1000 or Start: 1000, End: 2000).

The starting port must be greater than zero (0). The end port must be greater than or equal to the start port.

Local IP Address: Enter your server IP address in this field.

Start / End Port Number (Local): Enter the start / end port number of the local application (service).

Examples of well-known and registered port numbers are shown below. For further information, please see IANA's website at <http://www.iana.org/assignments/port-numbers>

Well-known and Registered Ports

Port Number	Protocol	Description
21	TCP	FTP Control
22	TCP & UDP	SSH Remote Login Protocol
23	TCP	Telnet
25	TCP	SMTP (Simple Mail Transfer Protocol)
53	TCP & UDP	DNS (Domain Name Server)
69	UDP	TFTP (Trivial File Transfer Protocol)
80	TCP	World Wide Web HTTP
110	TCP	POP3 (Post Office Protocol Version 3)
443	TCP & UDP	HTTPS
1503	TCP	T.120
1720	TCP	H.323
7070	UDP	RealAudio



Using port forwarding does have security implications, as outside users will be able to connect to PCs on your network. For this reason you are advised to use specific Virtual Server entries just for the ports your application requires, instead of using DMZ. As doing so will result in all connections from the WAN attempt to access to your public IP of the DMZ PC specified.



Attention

If you have disabled the NAT option in the WAN-ISP section, the Virtual Server function will hence be invalid.

If the DHCP server option is enabled, you have to be very careful in assigning the IP addresses of the virtual servers in order to avoid conflicts. The easiest way of configuring Virtual Servers is to manually assign static IP address to each virtual server PC, with an address that does not fall into the range of IP addresses that are to be issued by the DHCP server. You can configure the virtual server IP address manually, but it must still be in the same subnet as the router.

Example: How to setup Port Forwarding for port 21 (FTP server)

If you have a FTP server in your LAN network and want others to access it through WAN.

Step 1: Assign a static IP to your local computer that is hosting the FTP server.

Step 2: Login to the Gateway and go to **Configuration / Advanced Setup / NAT / Virtual Server**.

FTP server uses TCP protocol with port 21.

Enter “21” to Start and End Port Number. BEC 6300VNL will accept port 21 requests from WAN side.

Enter the static IP assigned to the local PC that is hosting the FTP server. Ex: 192.168.1.102

Enter “21” to Local Start and End Port number. BEC 6300VNL will forward port 21 request from WAN to the specific LAN PC (ex:192.168.1.102) in the network.

Step 3: Click **Save** to save settings.

Configuration

Virtual Server

Virtual Server for

Multiple IPs Account/ E/WAN

Protocol

TCP

Start Port Number

21

End Port Number

21

Local IP Address

192.168.1.102

Start Port Number (Local)

21

End Port Number(Local)

21

Save

Back

Virtual Server Listing


Rule	Protocol	Start Port	End port	Local IP Address	Start Port Local	End Port Local	Edit	Drop
0	TCP	21	21	192.168.1.102	21	21		
1	N/A	N/A	N/A	N/A	N/A	N/A		
2	N/A	N/A	N/A	N/A	N/A	N/A		
3	N/A	N/A	N/A	N/A	N/A	N/A		
4	N/A	N/A	N/A	N/A	N/A	N/A		
5	N/A	N/A	N/A	N/A	N/A	N/A		
6	N/A	N/A	N/A	N/A	N/A	N/A		
7	N/A	N/A	N/A	N/A	N/A	N/A		
8	N/A	N/A	N/A	N/A	N/A	N/A		
9	N/A	N/A	N/A	N/A	N/A	N/A		

Static DNS

The Domain Name System (DNS) is a hierarchical naming system built on a distributed database for computers, services, or any resource connected to the Internet or a private network associates various information with domain names assigned to each of the participating entities. Most importantly, it translates domain names meaningful to humans into the numerical identifiers associated with networking equipment for the purpose of locating and addressing these devices worldwide.

An often-used analogy to explain the Domain Name System is that it serves as the phone book for the Internet by translating human-friendly computer hostnames into IP addresses. For example, the domain name `www.example.com` can be translated into the addresses `192.0.32.10` (IPv4).

Static DNS is a concept relative to Dynamic DNS, in static DNS system, the IP mapped is static without change.

Configuration


Static DNS

IP Address

Domain Name

Save

Static DNS Listing

Index	IP Address	Domain Name	Edit	Delete
-------	------------	-------------	------	--------

IP Address: The IP address you are going to give a specific domain name.

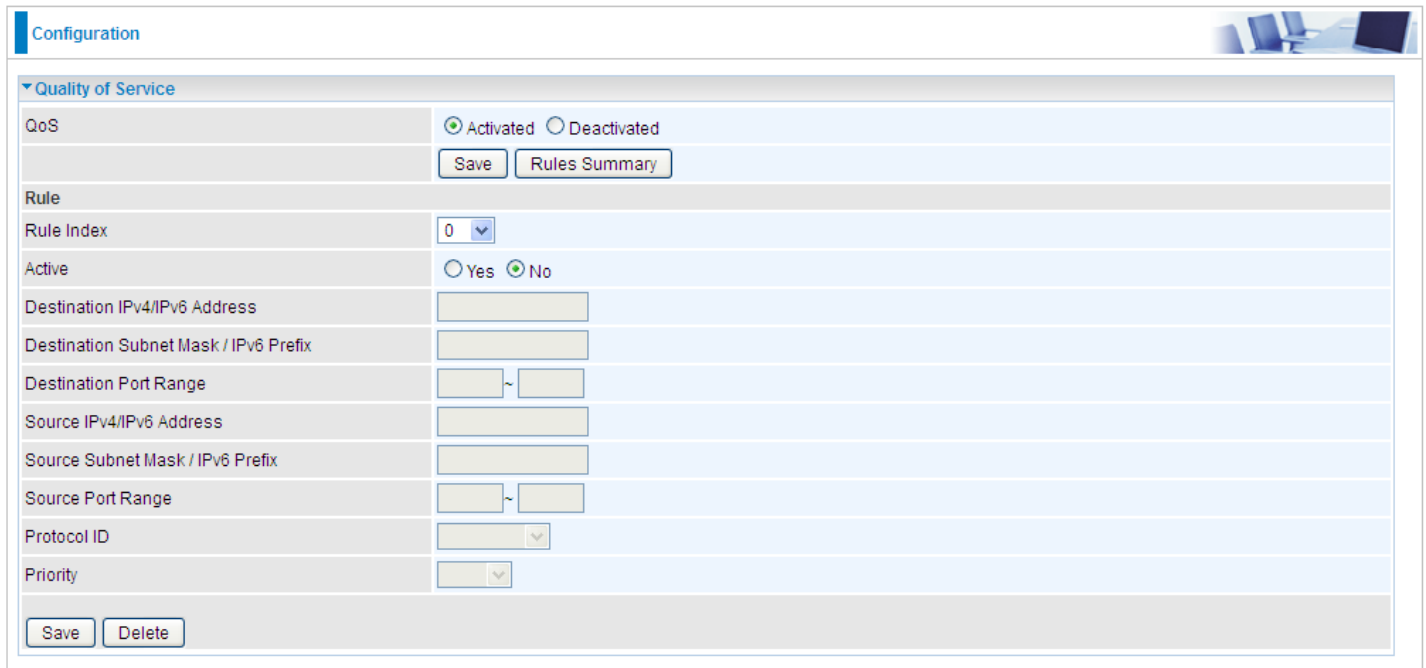
Domain Name: The friendly domain name for the IP address.

Press **Save** button to apply your settings.

QoS

QoS helps you control the upload traffic of each application from LAN (Ethernet and/or Wireless) to WAN (Internet).

It facilitates you the features to control the quality of throughput for each application. This is useful when there on certain types of data you want give higher priority to, such as voice data packets given higher priority than web data packets.



The screenshot shows the 'Configuration' tab with a 'Quality of Service' section. The 'QoS' status is 'Activated'. Below this are 'Save' and 'Rules Summary' buttons. The 'Rule' section contains a table with the following fields:

Rule	
Rule Index	0
Active	<input type="radio"/> Yes <input checked="" type="radio"/> No
Destination IPv4/IPv6 Address	
Destination Subnet Mask / IPv6 Prefix	
Destination Port Range	
Source IPv4/IPv6 Address	
Source Subnet Mask / IPv6 Prefix	
Source Port Range	
Protocol ID	
Priority	

At the bottom of the rule configuration are 'Save' and 'Delete' buttons.

Click **SETTING** to add QoS rules (up to 16 QoS rules).

Rule Index: Index marking for each rule up to maximum of 16.

Active: Select whether to activate the rule.

Destination IPv4/IPv6: Set the IPv4/IPv6 address that you want to filter on destination side.

Destination Subnet Mask / IPv6 Prefix: Specify the Destination Subnet Mask for IPv4 or prefix for IPv6.

Destination Port Range: Set the port range value that you want to filter on destination side.

Source IPv4/IPv6 Address: Set the IP address value that you want to filter on source side in IPv4 or IPv6.

Source Subnet Mask / IPv6 Prefix: Specify the Source Subnet Mask for IPv4 or prefix for IPv6.

Source Port Range: Set the port range value that you want to filter on source side.

Protocol ID: Set the protocol ID type of packets that you want to filter (TCP, UDP, ICMP, and IGMP).

Priority: Select to prioritize the traffic which the rule categorizes, High or Low.

Interface Grouping

Interface grouping is a function to group interfaces, known as VLAN. A Virtual LAN, commonly known as a VLAN, is a group of hosts with the common set of requirements that communicate as if they were attached to the same broadcast domain, regardless of the physical location. A VLAN has the same attributes as a physical LAN, but it allows for end stations to be grouped together even if they are not located on the same network switch. Similarly, they may also have been split into two different groups, even if they are on the same switch.

Each group will perform as an independent network. To support this feature, you must create mapping groups with appropriate LAN and WAN interfaces using the **Save** button.

Configuration

▼ Interface Grouping

Interface Grouping	<input type="radio"/> Activated <input checked="" type="radio"/> Deactivated		
Group Index	0 ▼		
EWAN Service	<input type="checkbox"/> EWAN0		
3G/4G-LTE	<input type="checkbox"/> 3G/4G-LTE <input type="checkbox"/> 3G/4G-LTE USB		
Ethernet LAN	<input type="checkbox"/> LAN1 <input type="checkbox"/> LAN2 <input type="checkbox"/> LAN3		
Wireless LAN	<input type="checkbox"/> WLAN1		
Group Summary	<input type="button" value="Group Summary"/>		

Interface Grouping: Select **Yes** to enable Interface Grouping feature.

Group Index: The index number indicating the current group ranging from 0 to 15.

EWAN Service: The available EWAN interface. Move to [Interface Setup](#) to add other EWAN interface.

3G/4G-LTE: The available 3G/4G-LTE interfaces.

Ethernet LAN: The available Ethernet interfaces.

Wireless LAN: The available wireless interfaces.

Group Summary: Click **Group Summary** to check current group information.

Example: Create two EWAN services, Service0 (PPPoE) and Service1 (Bridge).

Status			
Service Information Summary			
WAN 0	Active	ISP	IP Address
0	Yes	Dynamic	Dynamic
1	Yes	Bridge	N/A
2	No	Bridge	N/A
3	No	Bridge	N/A
4	No	Bridge	N/A
5	No	Bridge	N/A
6	No	Bridge	N/A
7	No	Bridge	N/A

You are going to group the ports and services into two working group, as shown below.

Group Index	Group Port
0	EWAN0, LAN1, LAN2, WLAN1
1	EWAN1, LAN3

Configuration

Interface Grouping

Interface Grouping

☒ Activated
☐ Deactivated

Group Index

0

EWAN Service

☒ EWAN0
☐ EWAN1

Ethernet LAN

☒ LAN1
☒ LAN2
☐ LAN3

Wireless LAN

☒ WLAN1

Group Summary

Group Summary

Save

Delete

Configuration

Interface Grouping

Interface Grouping

☒ Activated
☐ Deactivated

Group Index

1

EWAN Service

☐ EWAN0
☒ EWAN1

Ethernet LAN

☐ LAN1
☐ LAN2
☒ LAN3

Wireless LAN

☐ WLAN1

Group Summary

Group Summary

Save

Delete

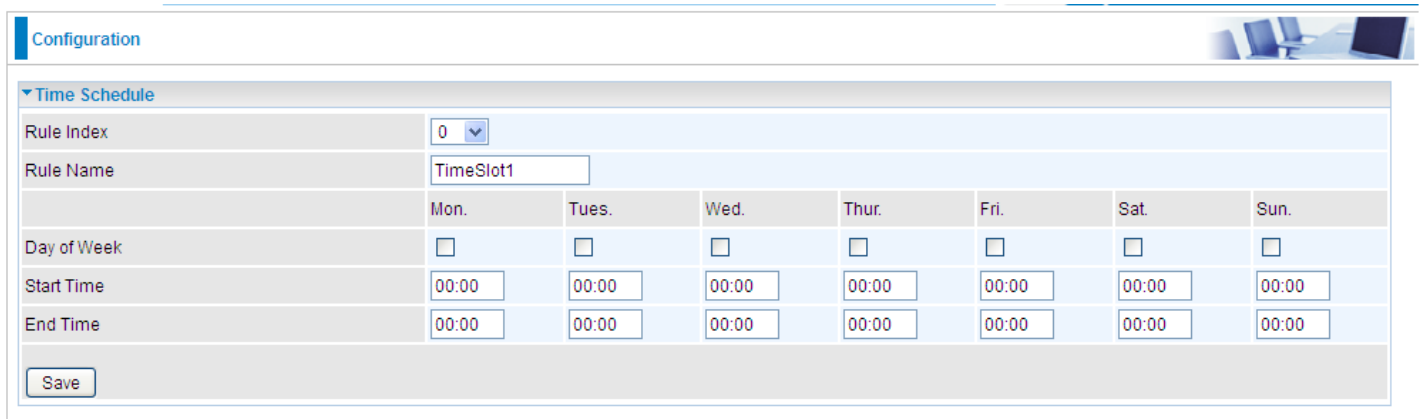
Click **Group Summary** to show the configuration results.

Group ID	Group port
0	wan0_0,e1,e2,w1
1	wan0_1,e3

Time Schedule

The Time Schedule supports up to **16** timeslots which helps you to manage your Internet connection. In each time profile, you may schedule specific day(s) i.e. Monday through Sunday to restrict or allowing the usage of the Internet by users or applications.

This Time Schedule correlates closely with router's time, since router does not have a real time clock on board; it uses the Simple Network Time Protocol (SNTP) to get the current time from an SNTP server from the Internet.



Configuration

Time Schedule

Rule Index: 0

Rule Name: TimeSlot1

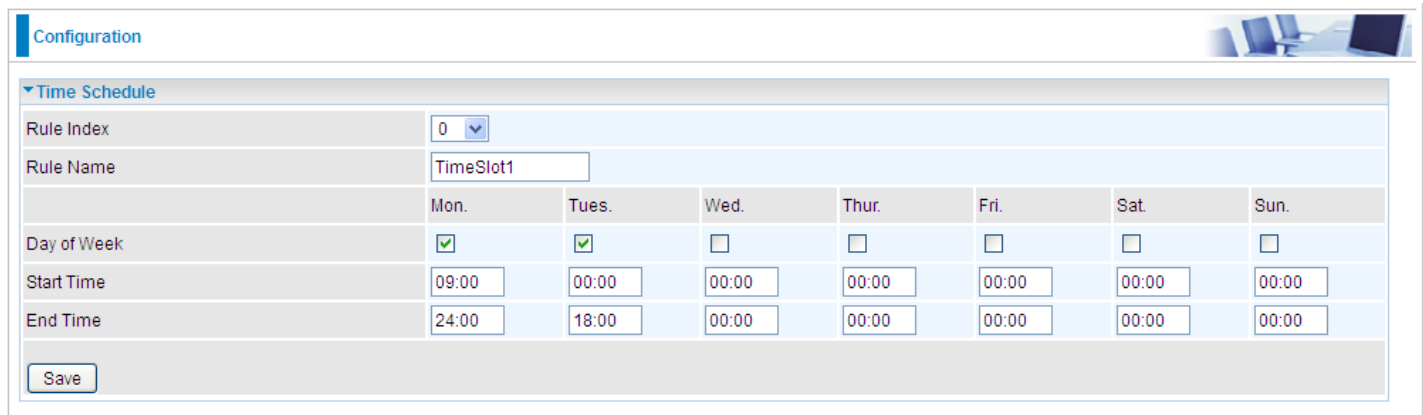
	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Sun.
Day of Week	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Start Time	00:00	00:00	00:00	00:00	00:00	00:00	00:00
End Time	00:00	00:00	00:00	00:00	00:00	00:00	00:00

Save

Time Index: The rule index (0-15) for identifying each timeslot.

Name: User-defined identification for each time period.

Day of Week / Start Time / End Time: Mon. to Sun. Specify the time interval for each timeslot from "Day of Week". For example, user can add a timeslot named "TimeSlot1" which features a period from 9:00 of Monday to 18:00 of Tuesday.



Configuration

Time Schedule

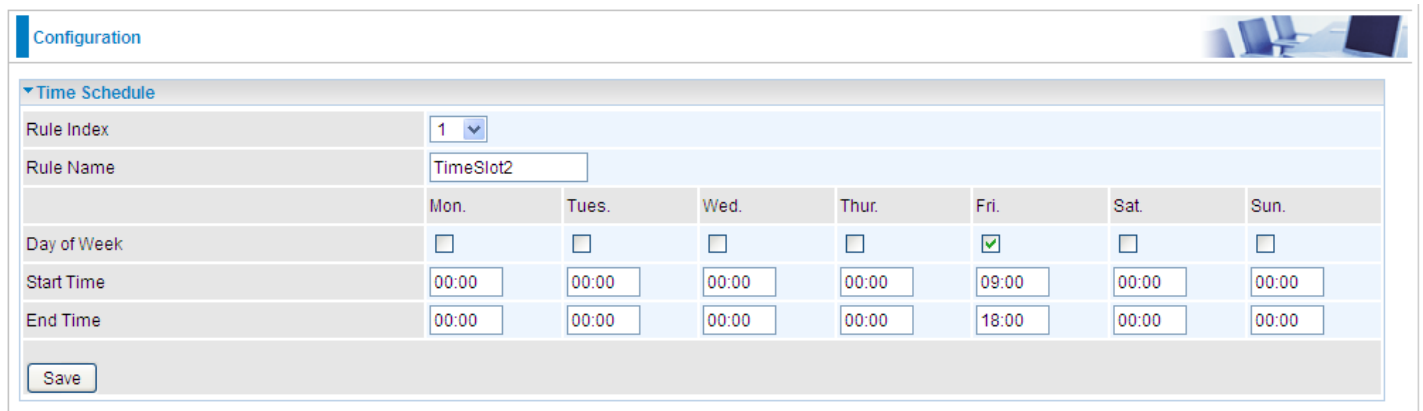
Rule Index: 0

Rule Name: TimeSlot1

	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Sun.
Day of Week	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Start Time	09:00	00:00	00:00	00:00	00:00	00:00	00:00
End Time	24:00	18:00	00:00	00:00	00:00	00:00	00:00

Save

Another TimeSlot2 spanning from 09:00 to 18:00 of Friday



Configuration

Time Schedule

Rule Index: 1

Rule Name: TimeSlot2

	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Sun.
Day of Week	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Start Time	00:00	00:00	00:00	00:00	09:00	00:00	00:00
End Time	00:00	00:00	00:00	00:00	18:00	00:00	00:00

Save

VoIP

VoIP, or Voice over Internet Protocol, enables telephone calls through existing internet connections instead of going through the traditional PSTN (Public Switched Telephone Network). It is not only cost-effective, especially for a long-distance call, but also top quality voice calls over the internet.

This section covers **Basic**, **Media**, **Advanced**, **Speed Dial**, **Dial Plan**, **Call Features**, and **NAT Traversal**.

Basic

Register to a SIP/VoIP service provider is an essential step before making the VoIP call. You can find out this information from your SIP/VoIP service provider.

▼ VoIP Basic	
Local SIP Port	5060
Local RTP (voice) Port	4000 ~ 4020
Interface	Auto ▼
Phone	1 ▼
Phone Number	
Display Name	
Authentication Name	<input type="checkbox"/> The same as Phone Number
Password	
User Domain	
SIP Registrar	: 5060
SIP Registration Expire	3600 sec.
SIP Proxy	: 5060
SIP Outbound Proxy	: 5060
<input type="button" value="Save"/>	

Local SIP Port: Set the local SIP port. This setting applies to both phone ports, Phone_1 and Phone_2, and these phone ports share the same local SIP port.

Local RTP (voice) Port: Set the local RTP port range used to receive voice packet. This setting applies to both the phone ports, Phone_1 and Phone_2, and these phone ports share the same local RTP port.

Interface: Select a WAN interface for Phone_1 and Phone_2.

Phone: Select “1”, the following parameters will be applicable to Phone1. In BEC 6300VNL, Phone_1 and Phone_2 are allowed to be of different characteristics, including different SIP registrar. You need to configure individually for phone1 and phone 2 and can have up to 2 different VoIP accounts.

Phone Number: Set your phone number or outgoing call number, which is usually obtained when registering in your ITSP. It is used for destination to identify which this call is made from.

Display Name: A user-friendly display name for the phone number to be easily identified.

Authentication Name: Enter a valid name for account authentication purpose. It is usually the Phone Number received from the VoIP service provider. If you have concerns, please contact your SIP/VoIP service provider for more information. Checkmark **The same as Phone Number** box if Authentication Name is identical as the phone number.

Password: Set the registering account password.

User Domain: Set the SIP Registrar Domain name you are going to register to, usually just the SIP registrar address.

SIP Registrar Address: Enter the SIP registrar address where offers the service of registering the VoIP account. It is definitely a VoIP server.

SIP Registrar Port: Type the port; it will listen to register requests from VoIP devices.

SIP Registration Expire: Set the time interval. The device can update (usually re-login the account) the VoIP account information with the SIP server very the time interval.

SIP Proxy Address: Enter the SIP proxy address provided by your ITSP. When destination and source phones are not sharing the same SIP registrar domain, the SIP proxy is needed to deliver call information and make the communication through.

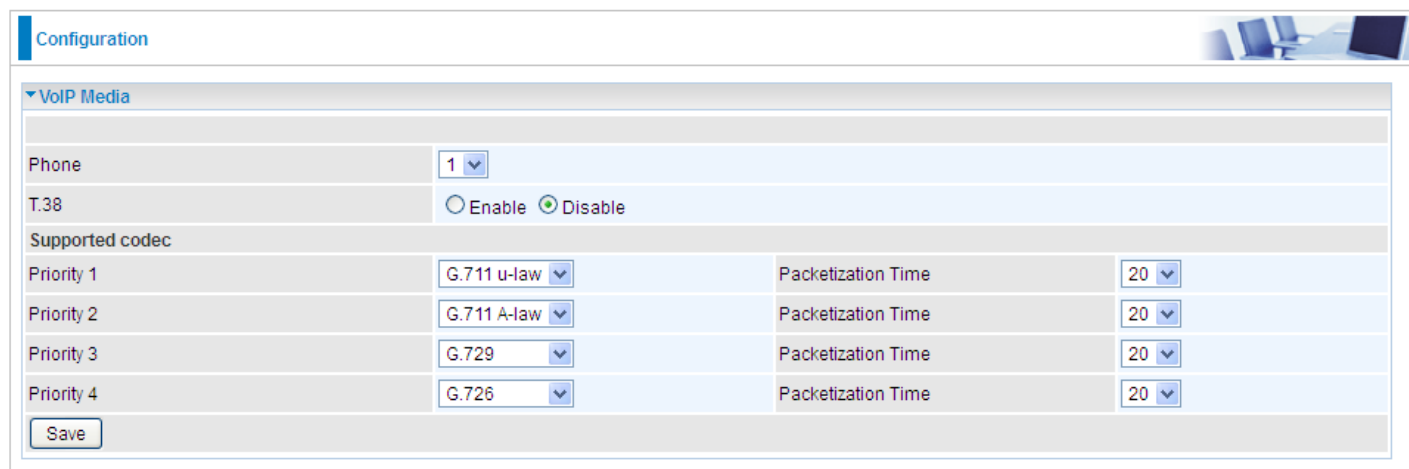
SIP Proxy Port: Set the SIP proxy port.

SIP Outbound Proxy Address: Set the SIP outbound proxy address. It is usually used to realize the communication between two phones when at least one of them is located behind a NAT router.

SIP Outbound Proxy Port: Set the SIP Outbound proxy port.

Media

Media offers for kinds of codec, G.711 u-law, G.711 A-law, G.729, G.726, from greatest to lowest in priority.



VoIP Media			
Phone	1		
T.38	<input type="radio"/> Enable <input checked="" type="radio"/> Disable		
Supported codec			
Priority 1	G.711 u-law	Packetization Time	20
Priority 2	G.711 A-law	Packetization Time	20
Priority 3	G.729	Packetization Time	20
Priority 4	G.726	Packetization Time	20
<input type="button" value="Save"/>			

Phone: Select to set the following configurations for Phone_1 or Phone_2. When phone1 is selected, the following set media codec will be applied to phone_1.

T.38: T.38 relay is a way to permit faxes to be transported across IP networks between existing fax terminals. Click Enable to allow transmission of fax over IP network between two fax machines. If T.38 is disabled, the analog fax signal is transmitted as the normal audio data. If T.38 relay is enabled, the fax signal is converted to T.38 signal.

- ▶ **G.711u-Law:** It is a basic non-compressed encoder and decoder technique. μ -LAW uses pulse code modulation (PCM) encoder and decoder to convert 14-bit linear sample.
- ▶ **G.711A-LAW:** It is a basic non-compressed encoder and decoder technique. A-LAW uses pulse code modulation (PCM) encoder and decoder to convert 13-bit linear sample into 8-bit value.
- ▶ **G.729:** It is used to encoder and decoder voice information into a single packet which reduces the bandwidth consumption.
- ▶ **G.726:** It is an ITU-T ADPCM speech codec standard covering the transmission of voice at rates of 32kbit/s.

Advanced

Advance section equipment the users with the ability to do some advanced settings to each phone port. Go on to see.

Configuration

VoIP Advanced

Region	USA-United States ▼
Phone	1 ▼
Silence Suppression(VAD)	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Echo Cancellation	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
DTMF Transport Mode	RFC2833 ▼
Listening Volume	0 db (-6~6)
Speaking Volume	0 db (-6~6)

Save

Region: Select the exact region from the drop-down menu to adjust the phone custom in the exact region, like ring tone, busy tone, dial tone, etc., as different regions may have different phone using traditions. The setting is to be applied to both phone 1 and phone 2.

Phone: Select the phone 1 or Phone 2 to have the following configurations applied to the phone.

Silence Suppression (VAD): Enable to minimize the use of bandwidth by automatically decreasing transmission of background noise when the device detects on voice input by the user on the phone.

Echo Cancellation: Enable to cancel echo for the other side in communication so as to make a clear listening environment. In order to avoid the other side in communication hearing the echo, please enable echo cancellation.

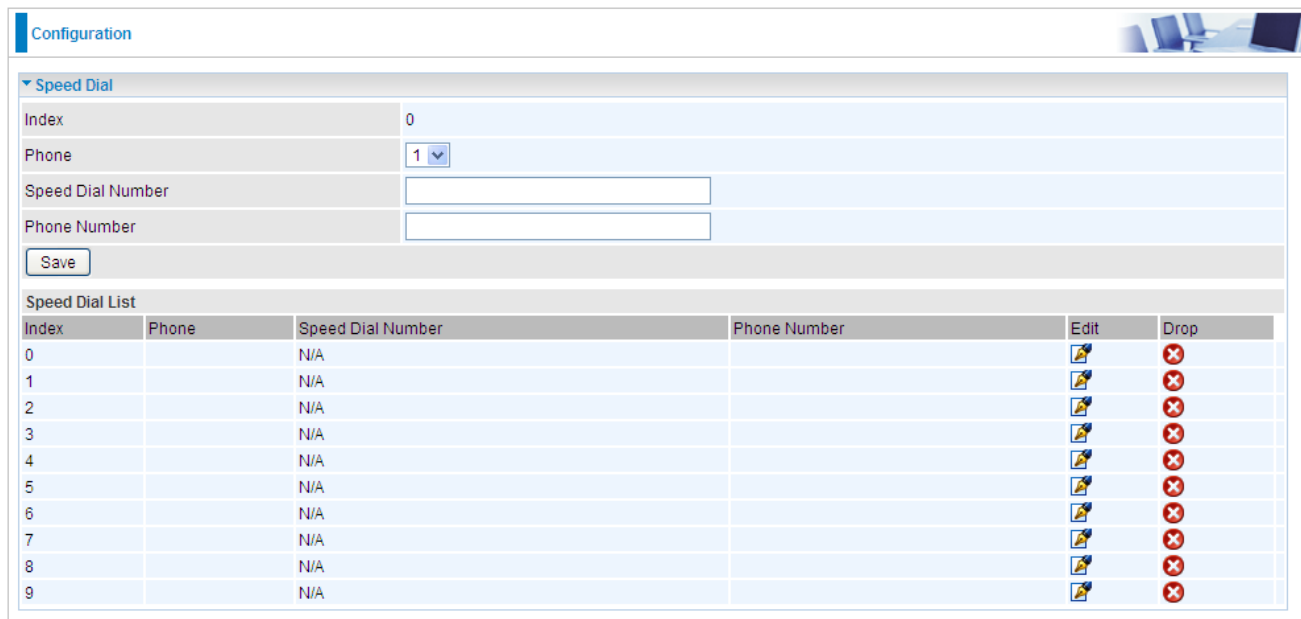
DTMF Transport Mode: Select the DTMF mode.

Listening Volume: Adjust the volume of listener, -6 to 6, from lowest to highest.

Speaking Volume: Adjust the volume of microphone; -6 to 6, from lowest to highest.

Speed Dial

Speed Dial comes at hand to store frequently used telephone number(s) that you can press set 'speed dial number' instead of the exact dialing-out number on the phone keyboard to make a quick dialing.



Configuration

Speed Dial

Index: 0

Phone: 1

Speed Dial Number:

Phone Number:

Speed Dial List

Index	Phone	Speed Dial Number	Phone Number	Edit	Drop
0		N/A			
1		N/A			
2		N/A			
3		N/A			
4		N/A			
5		N/A			
6		N/A			
7		N/A			
8		N/A			
9		N/A			

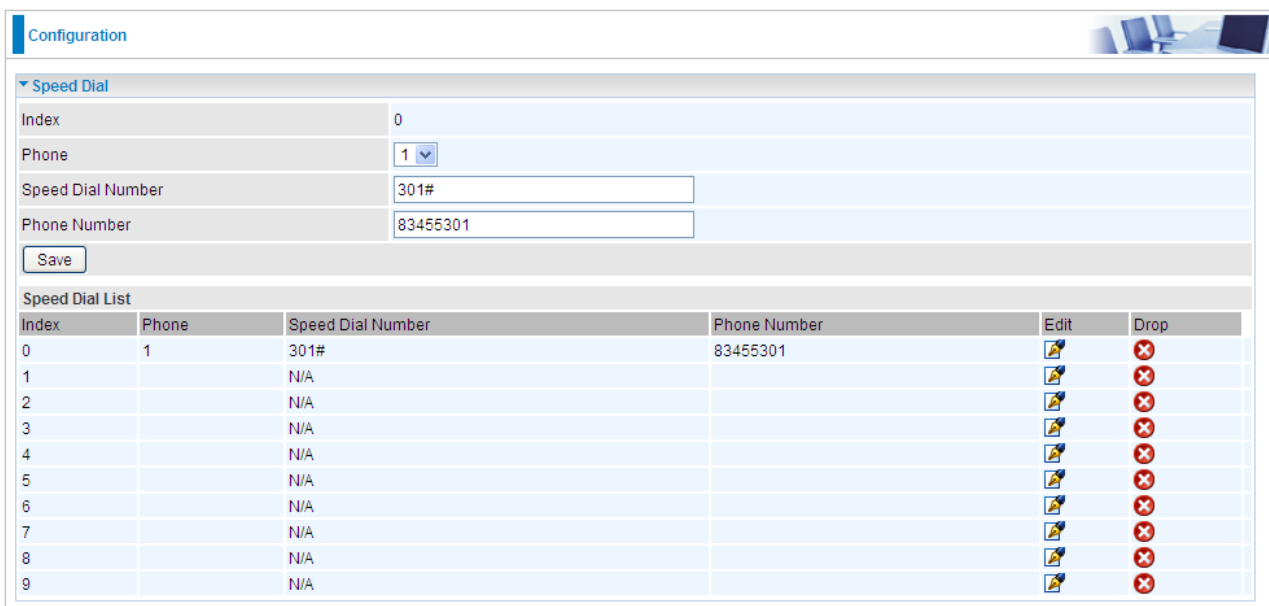
Index: The index to mark the speed dial number mapping, 0-9.

Phone: Select Phone 1 or Phone 2 to have your set speed dial number applied to the phone. If Phone_1 is selected, your set speed dial number is about to be applied to Phone_1.

Speed Dial Number: Set an easily remembered and simple number to replace the Phone number, it can be a sequence in varying length from 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9 *. #, but note * or # must be included in the sequence.

Phone Number: The complete destination number

Example: Save phone number 83455301 to the speed dial list.



Configuration

Speed Dial

Index: 0

Phone: 1

Speed Dial Number: 301#

Phone Number: 83455301

Speed Dial List

Index	Phone	Speed Dial Number	Phone Number	Edit	Drop
0	1	301#	83455301		
1		N/A			
2		N/A			
3		N/A			
4		N/A			
5		N/A			
6		N/A			
7		N/A			
8		N/A			
9		N/A			

When you want call 83455301 through phone 1, you can simply dial 301# to make your desired call.

Dial Plan

Dial Plan helps you to make a number dial via VoIP. You no longer need to memorize a long dial string or number for making a VoIP call.

Phone

1 ▼

Prefix Processing

☐ Prepend unconditionally
☐ If prefix is , delete it
☐ If prefix is , replace with
☒ No prefix

Main Digit Sequence

@

Save

Current Digit Map : x.

Index	Rule Name	Delete
0	x.	

Digit Sequence Example:

x. x specifies one digit between 0 and 9. x. specifies any sequence of digits in variable length at least 2. Maximum length is 32.

xxx Any sequence of digits in fixed length. Total length is 3.

xx. Any sequence of digits in variable length at least 3 digits. Maximum Length is 32.

123 Sequence of digits 123.

123. Any sequence of digits starting with 123 and with variable length at least 4. Maximum length is 32.

123x. Any sequence of digits starting with 123 and with variable length at least 5. Maximum length is 32.

[124]x. Any sequence of digits starting with 1 or 2 or 4. Minimal length is 3, maximum length is 32.

[1-3]x. Any sequence of digits starting with 1 to 3 and with variable length. Maximum length is 32.

9[4-6]8x. Any sequence of digits starting with first digit 9, the second digit between 4 to 6, and third digit 8. Length is variable, maximum length is 32.

Phone: Set the phone the VoIP dial rule relates to. When phone port is set to Phone-1, the rules will apply to phone1.

Click **Add** to create new rules.

Prefix Processing:

- ▶ **Prepend xxx unconditionally:** xxx number is appended unconditionally to the front of the dialing number when making a call. Prefix can also be included with any number and/or character such as *, #.
- ▶ **If Prefix is xxx, delete it:** Prefix xxx is removed from the dialed numbers before making a call.
- ▶ **If Prefix is xxx, replace with yyy:** Prefix xxx is replaced with yyy when making a call.
- ▶ **No prefix:** No prefix is appended to the front of the dialed numbers. It is set as in default settings.

Note: For special service with *, #, you may need to check with your VoIP or Local Telephone Service Provider for information.

Main Digit Sequence: The call(s) can be called out via SIP.

@ <SIP Gateway>: This is used for the Intelligent Call Routing feature where you need to set up **SIP account** on the VoIP User-defined Profiles link on the VoIP Basic page.

@ <IP address or Domain> or @<IP address or Domain>: <Port number>: This is used to call the desired party under a specified SIP server, also the SIP port number can be specified.

Digit Sequence Example:

x.	'x' specifies one digit between 0 and 9. 'x.' specifies any sequence of digits in variable length at least 2. Maximum length is 32.
xxx	Any sequence of digits in fixed length. Total length is 3.
xx.	Any sequence of digits in variable length at least 3 digits. Maximum Length is 32.
123	Sequence of digits 123.
123.	Any sequence of digits starting with 123 and with variable length at least 4. Maximum length is 32.
123x.	Any sequence of digits starting with 123 and with variable length at least 5. Maximum length is 32.
[124]x.	Any sequence of digits starting with 1 or 2 or 4. Minimal length is 3, maximum length is 32.
[1-3]x.	Any sequence of digits starting with 1 to 3 and with variable length. Maximum length is 32.
9[4-6]8x.	Any sequence of digits starting with first digit 9, the second digit between 4 to 6, and third digit 8. Length is variable, maximum length is 32.

Example:

Current Digit Map : x. 1[38]x. <03>[2-5]x. <#2>x.@10.1.1.20 <#3:233>x.@10.1.1.30:5800		
Index	Rule Name	Delete
0	x.	
1	1[38]x.	
2	<03>[2-5]x.	
3	<#2>x.@10.1.1.20	
4	<#3:233>x.@10.1.1.30:5800	

Rule 0, Any sequence of digits in variable length at least 2. Maximum length is 32.

- ▶ This is default rule ~ **x.**

Rule 1, Want to route all 13, 1300 & 1800 numbers via my provider which is configured on VoIP Basic page.

- ▶ Enter **1[38]x.** in the 'Main Digit Sequence' box
- ▶ Then end up with the following rule ~ **1[38]x.**

Rule 2, Want to prefix area code (03) to all local calls starting with 2,3,4,5

- ▶ Type **03** in the 'Prepend ~ unconditionally' box
- ▶ Type **[2-5]x.** in the 'Main Digit Sequence' box.
- ▶ Then end up with the following rule ~ **<03>[2-5]x.**

Rule 3, Want to create a prefix (#2) that when dialed can be remove (#2) digit sequence and used to

manually route a call via a specific provider (10.1.1.20):

- ▶ Type #2 in the 'if prefix is ~, delete it' field
- ▶ Type x. in the 'Main Digit Sequence' box
- ▶ Enter 10.1.1.20 in '@' box
- ▶ Then have the following rule ~ <#2:>x.@10.1.1.20

Now when you prefix number with #2 the call will route via selected provider 10.1.1.20

The # is not dialed, only the digits following

Rule 4, Want to create a prefix (#3) that when dialed can be remove (#3), replace with 233 and used to manually route a call via a specific provider (IP: 10.1.1.30, UDP port: 5800):

- ▶ Type #3 in the 'if prefix is ~, replace with' field
- ▶ Type 233 in the 'replace with' field
- ▶ Type x. in the 'Main Digit Sequence' box
- ▶ Enter 10.1.1.30:5800 in @ box
- ▶ Then have the following rule ~ <#3:233>x.@10.1.1.30:5800

Now when you prefix number with #3 the call will route via selected provider 10.1.1.30:5800

The #3 is not dialed, only replace with the digits 233 and following

Call Features

Call Features provides users with some advanced phone characteristics, including Hot-line/Warm-Lin, Call Forwarding, Call Transfer, Call waiting, Conference Call, etc.

▼ Call Features	
Phone	1 ▼
Hot-line/Warm-line	<input type="checkbox"/> Dial to <input type="text"/> Delay Time: <input type="text" value="0"/> seconds (0 ~ 15)
Call Forwarding	<input type="checkbox"/> Unconditional forwarding to <input type="text"/>
	<input type="checkbox"/> On Busy forwarding to <input type="text"/>
	<input type="checkbox"/> On No Answer forwarding to <input type="text"/> No Answer Time: <input type="text" value="30"/> seconds
Blind Call Transfer (Flash: *21 + number)	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Attended Call Transfer (Flash: *22 + number)	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Call Waiting	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Conference Call	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
MWI (Message Waiting Indicator)	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Anonymous Call	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Block Anonymous Call	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Distinctive Ring	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Phone number +*#.Immediate Call Out	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Vertical service code (VSC)	
Pass VSC to Softswitch	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Return Call (Dial number: *69)	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Redial (Dial number: *68)	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Don't Disturb (Enable: *78, Disable: *79)	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
<input type="button" value="Save"/>	

Phone: Select the phone 1 or Phone 2 to have the following characteristics applied to the phone.

Hot-line: Pre-selected a phone number and set the delay time to **0** to active the Hot-line feature. When taking the telephone off hook, this outgoing call will route to the pre-selected number without dialing the number.

- ▶ **To make an outgoing call:** Not allowed! Once the Hot-line is being turned ON, no any other outgoing calls are allowed except the hot-line number.
- ▶ **Receive Incoming Call:** Yes. No affected by this feature.

Warm-line: Pre-selected a phone number and pre-configure the delay time **between 1~15 seconds** to active the Warm-line feature. When the time delay has elapsed after taking the phone off hook, this outgoing call will route to the pre-selected number, no dialing is required.

- ▶ **To make an outgoing call:** Allowed! Replace a call before the delay time has elapsed.
- ▶ **Receive Incoming Call:** Yes. No affected by this feature.

Call Forwarding: All incoming can redirect to any phone number, a mobile number or landline telephone number, to get picked up.

- ▶ **Unconditional forwarding to:** Forward all incoming calls to a pre-selected phone number automatically. Input a phone number in the given space.
- ▶ **On Busy forwarding to:** Forward incoming calls to a pre-selected phone number when the line is busy. Input a phone number in the given space

- ▶ **On No Answer forwarding to ... No Answer Time (Seconds):** Forward incoming calls to a pre-selected phone number when calls are not answered within a certain time in seconds. Input a phone number and time in seconds in the given spaces.

Blind Call Transfer (Flash: *21 + number): A direct call transfer to the second party without speaking to the party. Enable to activate the feature.

1. Hold the original call
2. Press the “Transfer” or “hook flash” button, or quickly tap the on-hook sensor on the phone until you hear the dial tone
3. Then dial *21 and the number of the second party.

Attended Call Transfer (Flash: *22 + number): Need to consult with the second party before transferring the call. Enable to activate the feature.

1. Hold the original call
2. Press the “Transfer” or “hook flash” button, or quickly tap the on-hook sensor on the phone until you hear the dial tone
3. Dial *22 and the number of the second party.
4. After speaking with the second party
5. Then press the “Transfer” or “hook flash” button, or quickly tap the on-hook sensor on the phone again to complete the transfer.

Call Waiting: Enable to activate Call Waiting feature. When you are busy on a call with, for example, A, and another call comes in, B, while the Call Waiting feature is enabled, you can hear a hint sound indicating there is another call in for you to decide to answer B by pressing the “flash” button on the phone to keep the original call with A.

Conference Call: Enable to allow 3-way conference call. Please note, only 3 parties are allowed (device, A, and B).

MWI (Message Waiting Indicator): After enabling this feature, users will get notified the presence of a new voice message in the following ways:

- ▶ Stutter dial tone
- ▶ Blinking LED
- ▶ Feeding Caller ID signal to phone sets

NOTE:

- ▶ The SIP server needs to support MWI
- ▶ Phone set must support MWI CallerID in FSK, if users hope the phone to show the notification of Voice Mails

Anonymous Call: This feature enables you to restrict your phone number from displaying to the called party. When enabled, your phone number will be withheld and not be revealing to the called party.

Block Anonymous Call: All calls from people who have withheld their phone number can get rejected. After enabling this feature, BEC 6300VNL will reject calls with no phone number.

Distinctive Ring: This call feature is only available from a VoIP Service Provider which enables each telephone number to have a distinctive ring sound.

Note: Before enabling this feature, please consult with your VoIP Service Provider to be sure it can be supported.

There is a ringtone list available in the BEC 6300VNL, after enabling this feature, your BEC 6300VNL will adapt a specific ring pattern on the list requested by your VoIP Service Provider for a specific

telephone number.

When it is being disabled, all income calls will adapt the default ringtone for all telephone lines.

Immediate Call Out (Phone number +"#"): Dial your phone number plus '#' to immediately send the call out without waiting for the dialout delay time-out.

Example: Dial **5131234567#** to place this call immediately.

Pass VSC to Softswitch:

- ▶ **Enable** to pass VSC(Vertical Service Code) to the SIP server of ITSP which allows the SIP server to handle all its unique calling features such as Return Call, Call Redial, Don't Disturb, etc. Under this circumstance, users need to pay for such service, please ensure you check with your SIP provider for more information.
- ▶ **Disable** to let the BEC 6300VNL to handle all available call features.

Return Call (Dial number: *69): Dial *69 to redial the latest incoming call number.

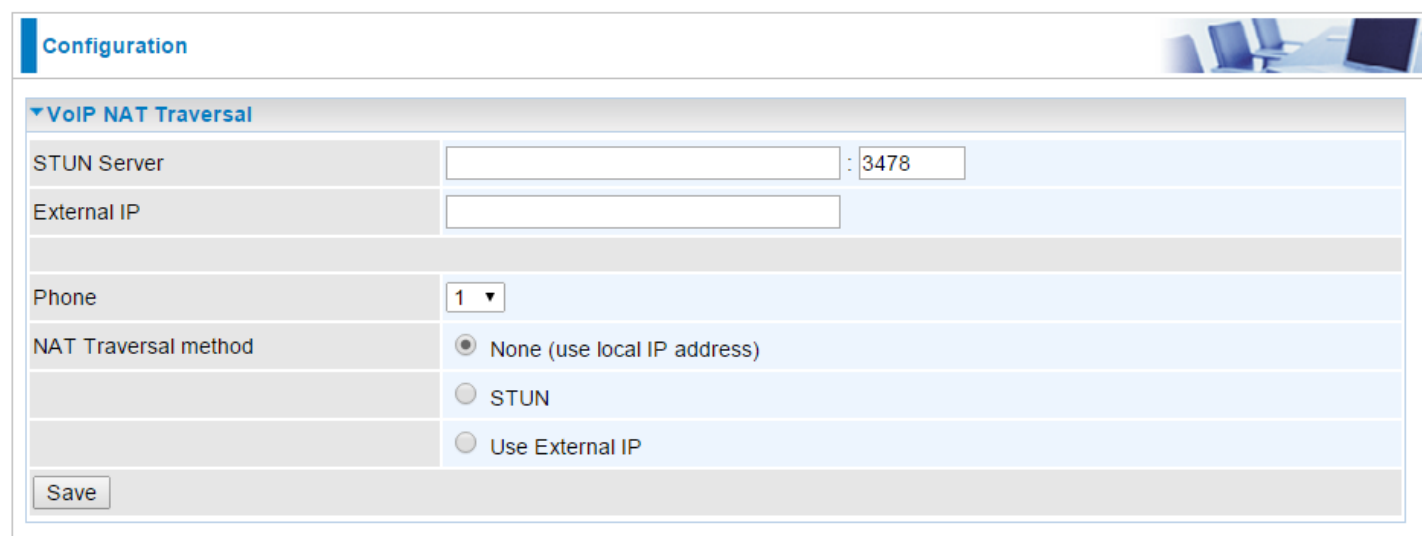
Redial (Dial number: *68): Dial *68 to redial the latest outgoing call number.

Don't Disturb (Enable: *78, Disable: *79): Press *78 to enable Don't Disturb feature so as to make it not ring when a call comes in; while press *79 to disable Don't Disturb feature, if a call comes with a ringing indication.

NAT Traversal for VoIP

BEC 6300VNL VoIP adapts SIP technology as main telephony protocol to provide voice call services over the Internet. This NAT Traversal of SIP feature resolves common NAT / firewall problem when 6300VNL VoIP is behind the NAT / another router to ensure all incoming calls (anyone from outside to place calls) can get picked up and protect the SIP network as well.

NOTE: Use this feature if your BEC 6300VNL is behind another router on a private network and does not obtain a public IP address.



The screenshot shows the 'Configuration' page for the BEC 6300VNL. The 'VoIP NAT Traversal' section is expanded, showing the following fields and options:

- STUN Server:** A text input field followed by a port field set to '3478'.
- External IP:** A text input field.
- Phone:** A dropdown menu with '1' selected.
- NAT Traversal method:** Three radio button options: 'None (use local IP address)' (selected), 'STUN', and 'Use External IP'.
- Save:** A button at the bottom left of the configuration area.

STUN (Simple Traversal of UDP through NATs) Server: Input STUN server IP address and port number in the given space. STUN server not only checks and discovers the Public WAN IP and port of an external router but also determine the kind of NAT the BEC 6300VNL is behind.

Note: STUN server normally operates on port 3478. If your STUN server uses other port than 3478, make sure you update this information.

External IP: Input a Public WAN IP address of the router in front of the BEC 6300VNL in the given space.

Note: If router's WAN / Public IP changes all the time, it is ideal to use STUN server or consult with your Service Provider if getting a static IP address is feasible; otherwise, manual updating your external router IP address would be required.

Phone: Choose which phone to use NAT traversal when behind another router on a private network.

NAT Traversal Method:

- ▶ **None** to disable the feature
- ▶ Use **STUN server** to do resolve NAT/firewall issue and ensure you input the STUN server IP address in the given space above.
- ▶ Use External IP of the router which is in front of the BEC 6300VNL. Please make sure this external router obtains a public WAN IP address then input this IP address in the given space above.

Example: Making 3-way Calling



Case 1: Bill and Larry are talking. Bill wants to invite Mark to join a conference call.

Step – 1: Billy and Larry are discussing on the phone. Bill tells Larry that he wants to set up a conference call with Mark.

Step – 2: Bill **presses flash** (hold original call), and Bill hears the dial tone.

Step – 3: Bill calls Mark. Bill and Mark are on a new call.

Step – 4: Bill tells Mark that Mark is invited to join a conference call.

Step – 5: Bill **presses flash** (hold new call) and return to original call.

Step – 4: Bill tells Larry that Mark is on the phone.

Step – 6: Bill **presses flash again** to merge all 3 calls.

Step – 7: Bill, Larry and Mark hold a 3-way conference call from now on.

Case 2: When Bill and Larry are talking on the phone, Bill received a phone call from Mark. Bill decided to ask Mark to join the conference call.

Step – 1: Bill and Larry on a call, then Mark dials Bill and Bill hears a waiting tone.

Step – 2: Bill **presses flash** and picks up the call waiting call.

Step – 3: Bill tells Mark that he and Larry are talking on the phone; they can have a conference call.

Step – 4: Bill **presses flash** to hold the call with Mark and return to original call with Larry.

Step – 5: Bill tells Larry that it is Mark and he wants to set up a conference with Mark.

Step – 6: Bill **presses flash again** to merge all 3 calls.

Step – 7: Bill, Larry and Mark hold a 3-way conference call from now on.

Access Management

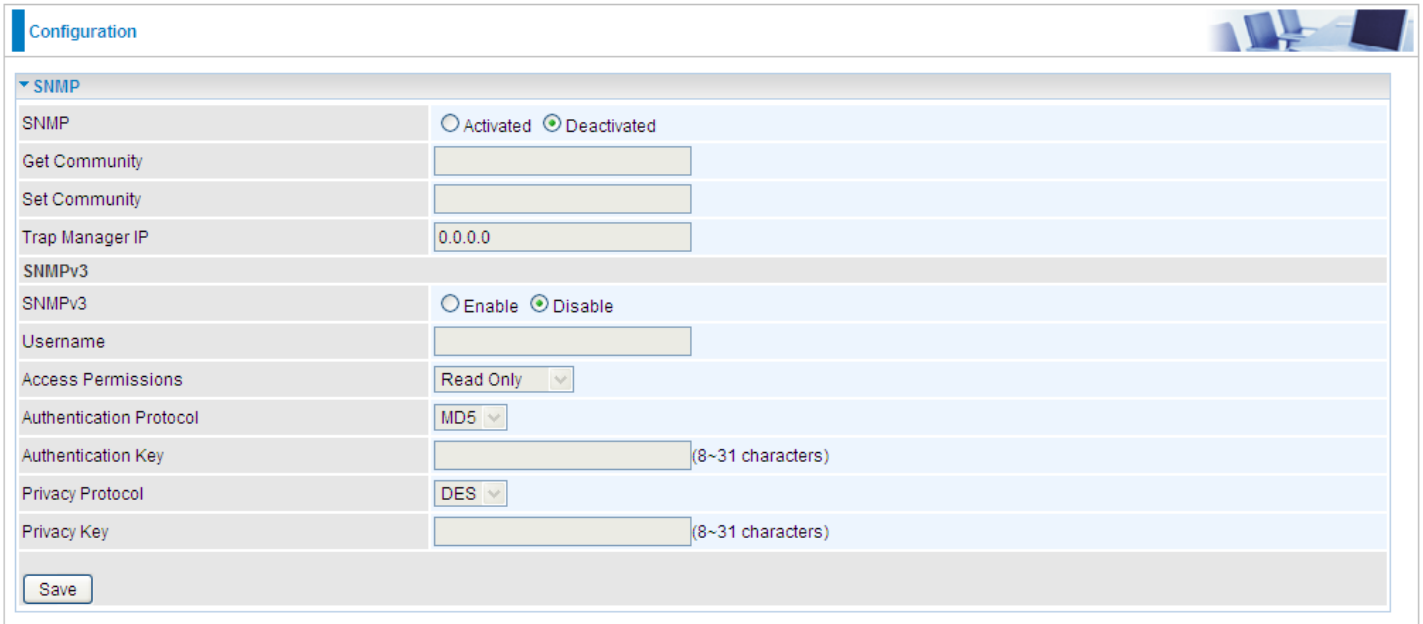
Device Management

Device management offers users a way to change the embedded web server accessing port, default 80. User can change the http port to 8080 or something else here.

▼ Device Management	
Device Host Name	
Host Name	<input type="text" value="home.gateway"/>
<input type="button" value="Save"/>	
Embedded Web Server	
HTTP Port	<input type="text" value="80"/> (The default HTTP port number is 80.)
<input type="button" value="Save"/>	

SNMP

Simple Network Management Protocol (SNMP) is a protocol used for exchanging management information between network devices. SNMP is a member of the TCP/IP protocol suite. BEC 6300VNL serves as a SNMP agent which allows a manager station to manage and monitor the router through the network.



Configuration

SNMP

SNMP ☐ Activated ☒ Deactivated

Get Community

Set Community

Trap Manager IP

SNMPv3

SNMPv3 ☐ Enable ☒ Disable

Username

Access Permissions

Authentication Protocol

Authentication Key (8~31 characters)

Privacy Protocol

Privacy Key (8~31 characters)

Save

SNMP: Select to enable SNMP feature.

Get Community: Type the Get Community, which is the password for the incoming Get-and-GetNext requests from the management station.

Set Community: Type the Set Community, which is the password for incoming Set requests from the management station.

Trap Manager IP: Enter the IP of the server receiving the trap message (when some exception occurs) sent by this SNMP agent.

SNMPv3: Enable to activate the SNMPv3.

User Name: Enter the name allowed to access the SNMP agent.

Access Permissions: Set the access permissions for the user; RO--read only and RW--read and writer.

Authentication Protocol: Select the authentication protocol, MD5 and SHA. SNMP agent can communicate with the manager station through authentication and encryption to secure the message exchange. Set the authentication and encryption information here and below.

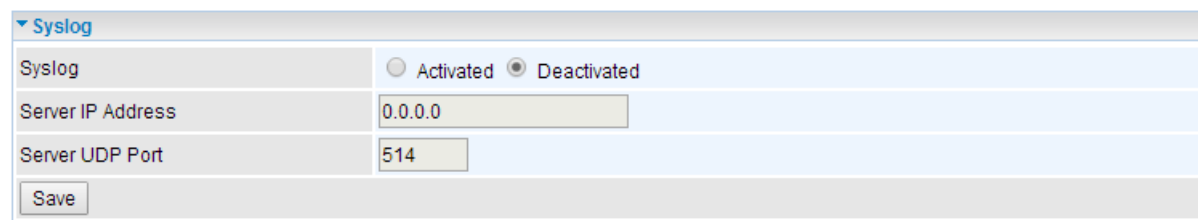
Authentication Key: Set the authentication key, 8-31 characters.

Privacy Protocol: Select the privacy mode, DES and AES.

Privacy Key: Set the privacy key, 8-31 characters.

Remote Syslog

Remote Syslog allows users to set up an isolated external syslog server to receive system logs from the router for convenient view.



Remote Log: Select whether to activate to use remote syslog service.

Server IP Address: Enter your syslog server IP address.

Server UDP Port: The syslog service UDP port, default is 514.

Universal Plug & Play

UPnP offers peer-to-peer network connectivity for PCs and other network devices, along with control and data transfer between devices. UPnP offers many advantages for users running NAT routers through UPnP NAT Traversal, and on supported systems makes tasks such as port forwarding much easier by letting the application control the required settings, removing the need for the user to control advanced configuration of their device.

Both the user's Operating System and the relevant application must support UPnP in addition to the router. Windows XP and Windows ME natively support UPnP (when the component is installed), and Windows 98 users may install the Internet Connection Sharing client from Windows XP in order to support UPnP. Windows 2000 does not support UPnP.



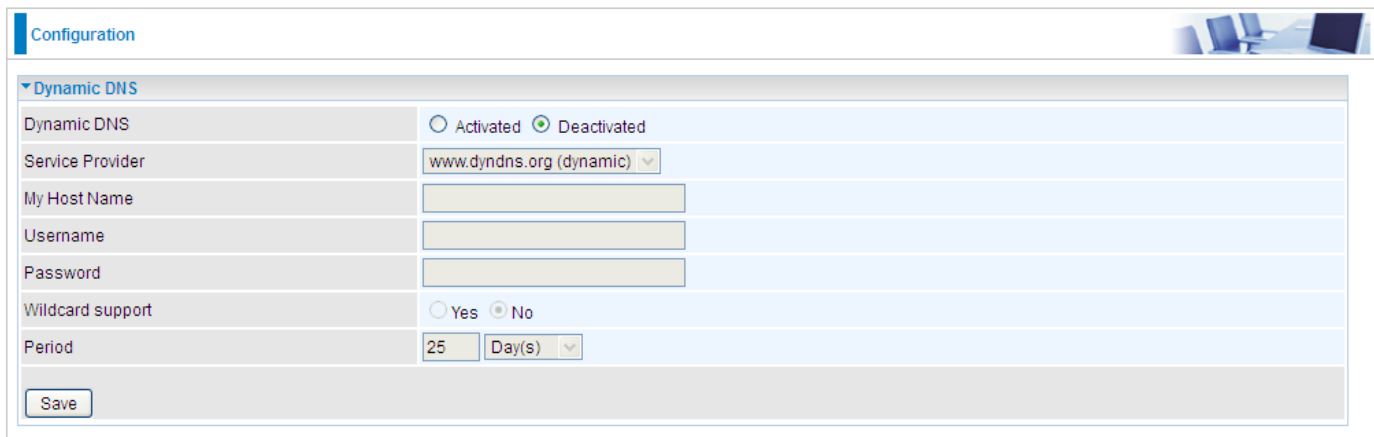
UPnP: Select this checkbox to activate UPnP. Be aware that anyone could use a UPnP application to open the web configuration's login screen without entering the BEC 6300VNL' IP address

Auto-configured: Select this check box to allow UPnP-enabled applications to automatically configure the BEC 6300VNL so that they can communicate through the BEC 6300VNL, for example by using NAT traversal, UPnP applications automatically reserve a NAT forwarding port in order to communicate with another UPnP enabled device; this eliminates the need to manually configure port forwarding for the UPnP enabled application.

Dynamic DNS

The Dynamic DNS function allows you to alias a dynamic IP address to a static hostname, allowing users whose ISP does not assign them a static IP address to use a domain name. This is especially useful for hosting servers via your internet connection, so that anyone wishing to connect to you may use your domain name, rather than having to use your dynamic IP address, which changes from time to time. This dynamic IP address is the WAN IP address of the router, which is assigned to you by your ISP.

Here users can register different WAN interfaces with different DNS(es). But note that first users have to go to the Dynamic DNS registration service provider to register an account.



Configuration

Dynamic DNS

Dynamic DNS ☐ Activated ☒ Deactivated

Service Provider

My Host Name

Username

Password

Wildcard support ☐ Yes ☒ No

Period

Save

Dynamic DNS: Select this check box to activate Dynamic DNS.

Service Provider: Select from drop-down menu for the appropriate service provider, for example: www.dyndns.org.

My Host Name: Type the domain name assigned to your BEC 6300VNL by your Dynamic DNS provider.

Username: Type your user name.


Password: Type the password.

Wildcard support: Select this check box to enable DYNDNS Wildcard.

Period: Set the time period between updates, for the Router to exchange information with the DDNS server. In addition to updating periodically as per your settings, the router will perform an update when your dynamic IP address changes.

Example: How to register a DDNS account

Note first users have to go to the Dynamic DNS registration service provider to register an account. User **test1** register a Dynamic Domain Names in DDNS provider <http://www.dyndns.org/> . DDNS: www.hometest.com using username/password test/test

Configuration


Dynamic DNS

Dynamic DNS	<input checked="" type="radio"/> Activated <input type="radio"/> Deactivated
Service Provider	<input type="text" value="www.dyndns.org (dynamic)"/>
My Host Name	<input type="text" value="www.hometest.com"/>
Username	<input type="text" value="test1"/>
Password	<input type="password" value="...."/>
Wildcard support	<input type="radio"/> Yes <input checked="" type="radio"/> No
Period	<input type="text" value="25"/> <input type="text" value="Day(s)"/>

Save

Access Control

Access Control Listing allows you to determine which services/protocols can access BEC 6300VNL interface from which computers. It is a management tool aimed to allow IPs (set in secure IP address) to access specified embedded applications (Web, etc., user can set) through some specified interface (LAN, WAN or both). User can have an elaborate understanding in the examples below.

The maximum number of entries is **16**.

Configuration

Access Control

Access Control

☒ Activated
☐ Deactivated

Access Control Editing

Rule Index

1

Active

☒ Yes
☐ No

Secure IP Address

0.0.0.0 ~ 0.0.0.0 (0.0.0.0 ~ 0.0.0.0 means all IPs)

Application

ALL

Interface

LAN

Save

Delete

Access Control Listing

Index	Active	secure IP Address	Application	Interface
1	Yes	0.0.0.0-0.0.0.0	ALL	LAN
2	Yes	0.0.0.0-0.0.0.0	Ping	WAN

Access Control: Select whether to make Access Control function available.

Rule Index: The numerical indication of the rules

Active: Select to activate the rule.

Secure IP Address: The default 0.0.0.0 allows any client to use this service to manage the BEC 6300VNL. Type an IP address range to restrict access to the client(s) without a matching IP address.

Application: Choose a service that you want to all access to all the secure IP clients. The drop-down menu lists all the common used applications.

Interface: Select the access interface. Choices are **LAN**, **WAN** and **Both**.

By default, the “Access Control” has **two default rules**.

Default Rule 1: (Index 1), a rule to allow only clients from LAN to have access to all embedded applications (Web, FTP, etc.). Under this situation, clients from WAN cannot access the router even from Ping.

Configuration

Access Control

Access Control

☒ Activated
☐ Deactivated

Access Control Editing

Rule Index

1

Active

☒ Yes
☐ No

Secure IP Address

0.0.0.0 ~ 0.0.0.0 (0.0.0.0 ~ 0.0.0.0 means all IPs)

Application

ALL

Interface

LAN

Save

Delete

Access Control Listing

Index	Active	secure IP Address	Application	Interface
1	Yes	0.0.0.0-0.0.0.0	ALL	LAN
2	Yes	0.0.0.0-0.0.0.0	Ping	WAN

Default Rule 2: (Index 2), an ACL rule to open Ping to WAN side.

Configuration

Access Control

Access Control

☒ Activated
 ☐ Deactivated

Access Control Editing

Rule Index

2

Active

☒ Yes
 ☐ No

Secure IP Address

0.0.0.0 ~ 0.0.0.0

(0.0.0.0 ~ 0.0.0.0 means all IPs)

Application

Ping

Interface

WAN

Save

Delete

Access Control Listing

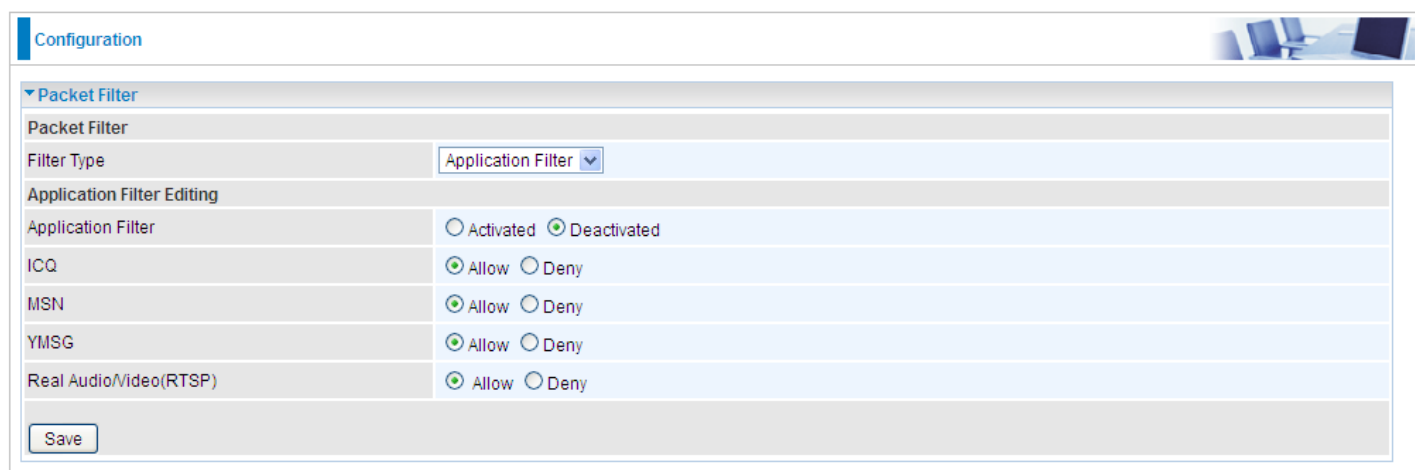
Index	Active	secure IP Address	Application	Interface
1	Yes	0.0.0.0-0.0.0.0	ALL	LAN
2	Yes	0.0.0.0-0.0.0.0	Ping	WAN

- Source Port Number:** The source port number of packets to be monitored. 0 means “Don’t care”.
- Destination IP Address:** The destination IP address of packets to be monitored. 0.0.0.0 means “Don’t care”.
- Destination Subnet Mask:** Enter the subnet mask of the destination network.
- Destination Port Number:** This is the Port that defines the application. (E.g. HTTP is port 80.)
- DSCP:** DSCP: Differentiated Services Code Point, it is recommended that this option be configured by an advanced user or keep 0. (0 means Don’t care.)
- Protocol:** Specify the packet type (TCP, UDP, ICMP, and ICMPv6) that the rule applies to.

IP/MAC Filter Listing

- #:** Item number.
- Active:** Whether the connection is currently active.
- Interface:** show the interface the rule applied to.
- Direction:** show the direction the rule applied to.
- Source IP (IPv6) Address/Mask (Prefix):** The source IP address or range of packets to be monitored.
- Destination IP (IPv6) Address/Mask (Prefix):** This is the destination subnet IP address.
- Source MAC Address:** show the MAC address of the rule applied.
- Source Port:** The source port number of packets to be monitored.
- Destination Port:** This is the Port or Port Ranges that defines the application.
- DSCP:** show the set DSCP.
- Protocol:** It is the packet protocol type used by the application. Select either **TCP** or **UDP** or **ICMP** or **ICMPv6**

❖ Packet Filter - Application Filter



Configuration

Packet Filter

Filter Type: Application Filter

Application Filter Editing

Application Filter: ☐ Activated ☒ Deactivated

ICQ: ☒ Allow ☐ Deny

MSN: ☒ Allow ☐ Deny

YMSG: ☒ Allow ☐ Deny

Real Audio/Video(RTSP): ☒ Allow ☐ Deny

Save

Application Filter: Select this option to Activated/Deactivated the Application filter.

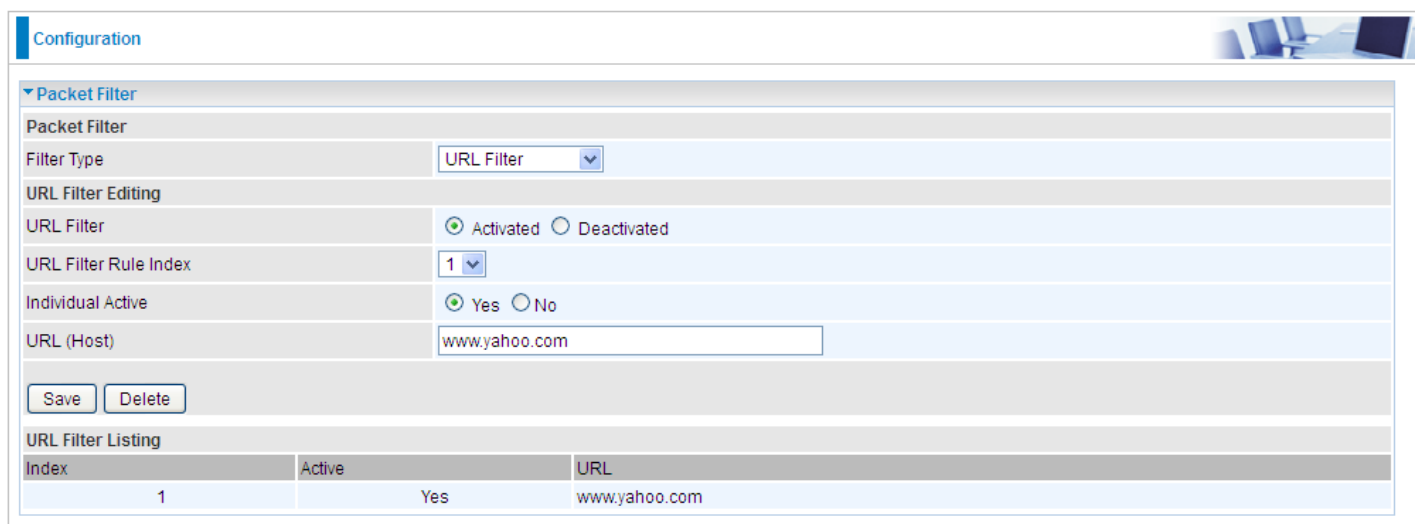
ICQ: Select this option to Allow/Deny ICQ.

MSN: Select this option to Allow/Deny MSN.

YMSG: Select this option to Allow/Deny Yahoo messenger.

Real Audio/Video (RTSP): Select this option to Allow/Deny Real Audio/Video (RTSP).

❖ Packet Filter - URL Filter



Configuration

Packet Filter

Filter Type: URL Filter

URL Filter Editing

URL Filter: ☒ Activated ☐ Deactivated

URL Filter Rule Index: 1

Individual Active: ☒ Yes ☐ No

URL (Host): www.yahoo.com

Save Delete

URL Filter Listing

Index	Active	URL
1	Yes	www.yahoo.com

URL Filter: Select **Activated** to enable URL Filter.

URL Filter Rule Index: The numerical indication of the rules.

Individual Active: To give control to the specific URL access individually, for example, you want to prohibit access to www.yahoo.com, please first press Activated in “URL Filter” field, and also Yes in “Individual Active” field; if some time you want to allow access to this URL, you simply select No in individual active field. In a word, the command serves as a switch to the access of some specific URL with the filter on.

URL (Host): Specified URL which is prohibited from accessing.

Connection Request Information

Path: Local path in HTTP URL for an ACS to make a Connection Request notification to the CPE.

Username: Username used to authenticate an ACS making a Connection Request to the CPE.

Password: Password used to authenticate an ACS making a Connection Request to the CPE.

Periodic Inform Config

Periodic Inform: Select Activated to authorize the router to send an Inform message to the ACS automatically.

Interval(s): Specify the inform interval time (sec) which CPE used to periodically send inform message to automatically connect to ACS. When the inform interval time arrives, the CPE will send inform message to automatically connect to ACS.

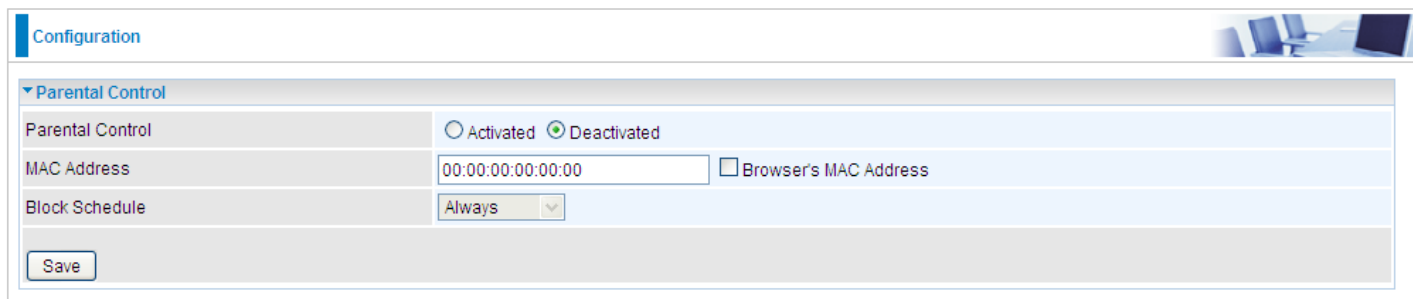
NATT Config - This is a proprietary feature provided by BEC. May leave them in blank, no configuration is required.

NATT Server: By BEC administrator only.

NATT Period: By BEC administrator only.

Parental Control

With this feature, router can reject to provide **Internet** services to the specified computer during some specified time interval. This can be very useful for parents to give control to children using computer without restraint.



Configuration

Parental Control

Parental Control ☐ Activated ☒ Deactivated

MAC Address ☐ Browser's MAC Address

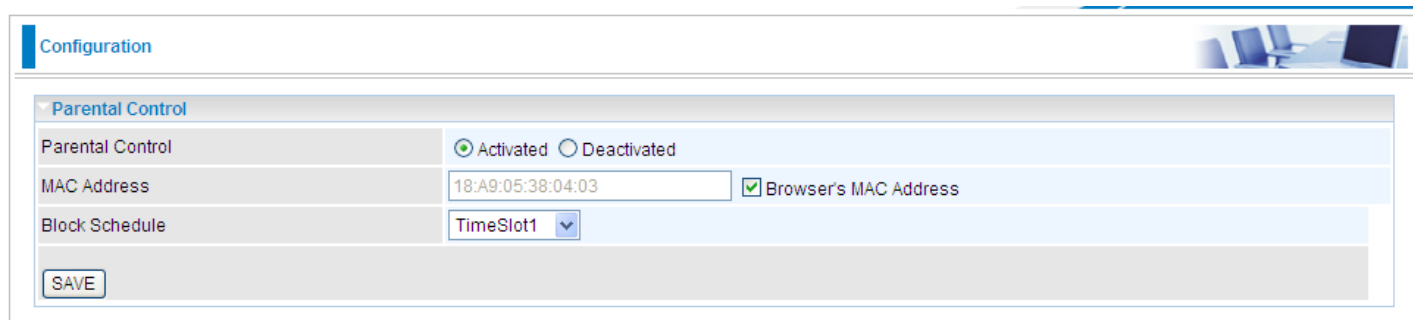
Block Schedule

Save

Parent Control: Select Activated to enable this feature.

MAC Address: Type the MAC address(es) you want to block to access the internet (access to the router is sustained). The format of MAC address could be: xx:xx:xx:xx:xx:xx . If you want to set restriction to the Browser PC, you can directly check the checkbox of Browser's MAC Address.

Block Schedule: Select a timeslot throughout which the above set MAC is restricted to access internet. See [Time Schedule](#) to set the exact timeslot.



Configuration

Parental Control

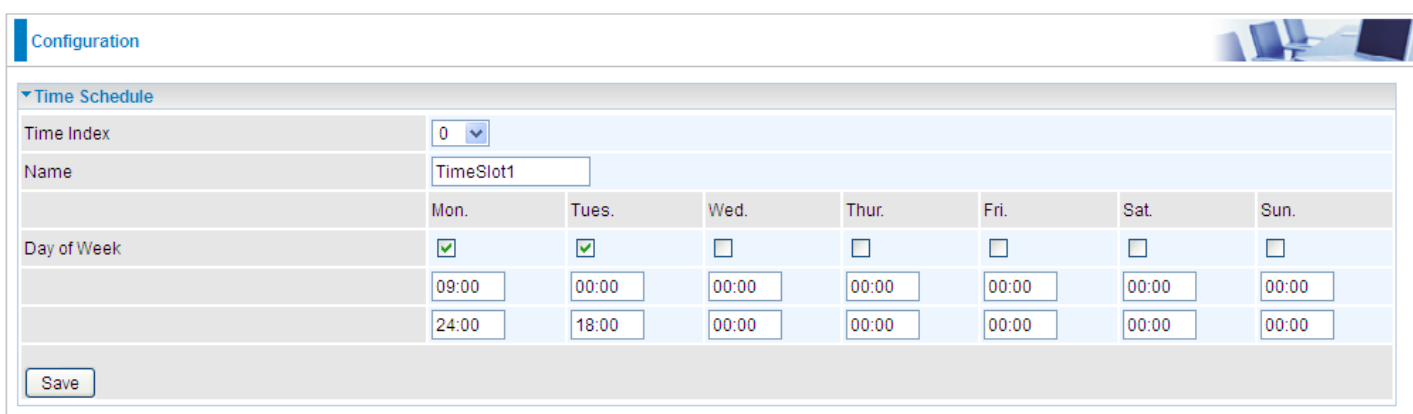
Parental Control ☒ Activated ☐ Deactivated

MAC Address ☒ Browser's MAC Address

Block Schedule

SAVE

Timeslot1 at Time Schedule:



Configuration

Time Schedule

Time Index

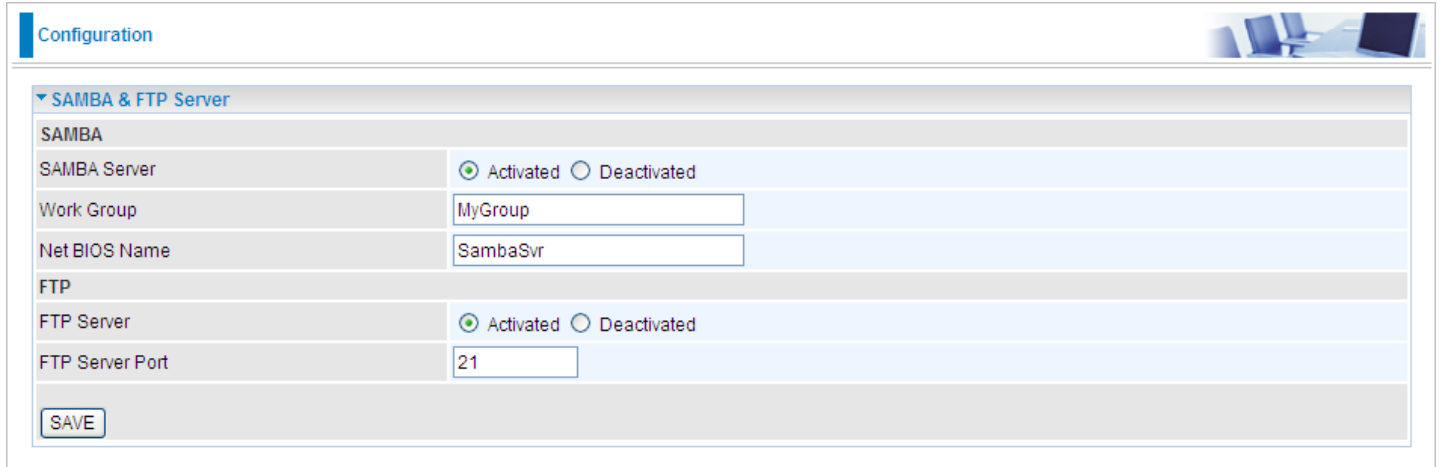
Name

Day of Week	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Sun.
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="text" value="09:00"/>	<input type="text" value="00:00"/>	<input type="text" value="00:00"/>	<input type="text" value="00:00"/>	<input type="text" value="00:00"/>	<input type="text" value="00:00"/>	<input type="text" value="00:00"/>
	<input type="text" value="24:00"/>	<input type="text" value="18:00"/>	<input type="text" value="00:00"/>	<input type="text" value="00:00"/>	<input type="text" value="00:00"/>	<input type="text" value="00:00"/>	<input type="text" value="00:00"/>

Save

SAMBA & FTP Server

Samba and FTP are served as network sharing.



Configuration

▼ SAMBA & FTP Server

SAMBA

SAMBA Server ☒ Activated ☐ Deactivated

Work Group

Net BIOS Name

FTP

FTP Server ☒ Activated ☐ Deactivated

FTP Server Port

SAVE

SAMBA Server: Activated to enable SAMBA sharing.

Work Group: The same mechanism like in Microsoft work group, please set the Work Group name.

NetBIOS Name: The sharing NetBIOS name.

FTP Server: Activated to enable FTP sharing.

FTP Server Port: Set the working port. Well-known one is 21. User can change it.

SAMBA/FTP login account:

- ▶ **Default user:** admin/admin, it is the administrative user and a super user; it has the full authority of SAMBA /FTP access and operation permission of objects in SAMBA and FTP server.
- ▶ **New user:** users can create new user(s) to grant it (them) access and permission to the SAMBA & FTP server.

Please see [User Management](#).

Example: How to setup Samba

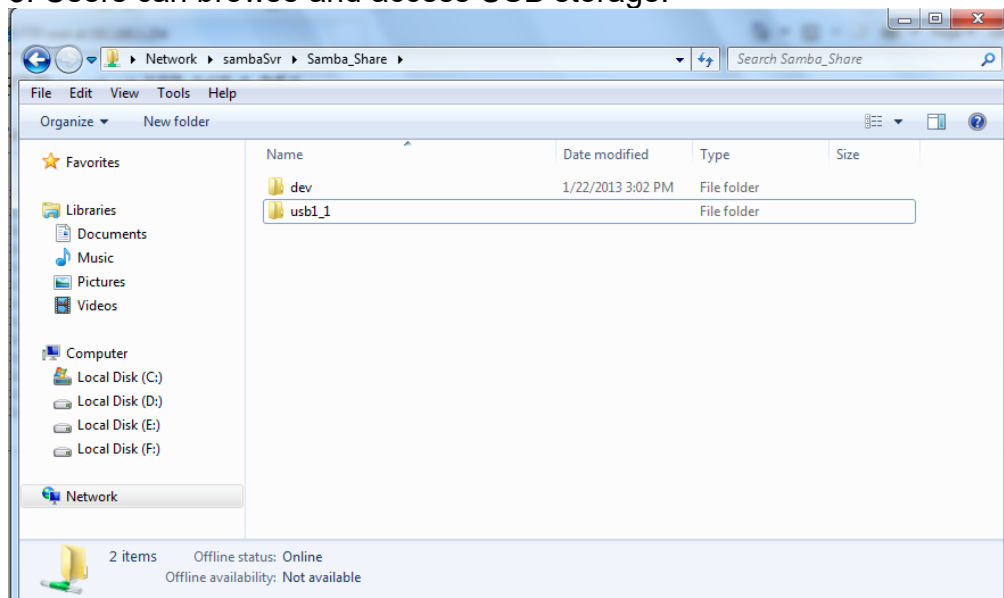
1. Go directly to Start > Run (enter [\\192.168.1.254](#) (from LAN side), [\\SambaSvr](#) , but if you enter [\\SambaSvr](#), please be sure your working PC is in the same workgroup as set in the samba server set above.)



2. Enter the Username and password.



3. Users can browse and access USB storage.

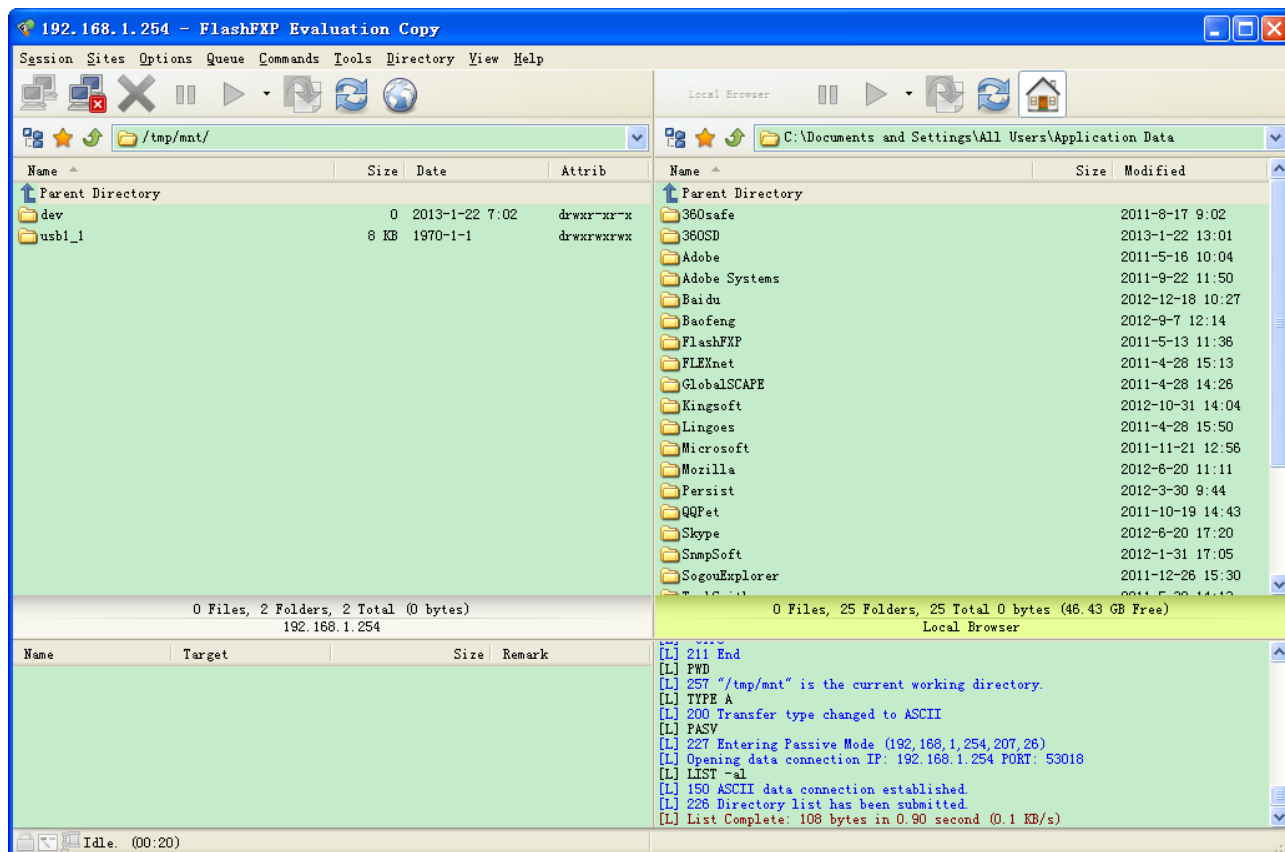


Example: How to setup FTP :

1. Access via FTP tools

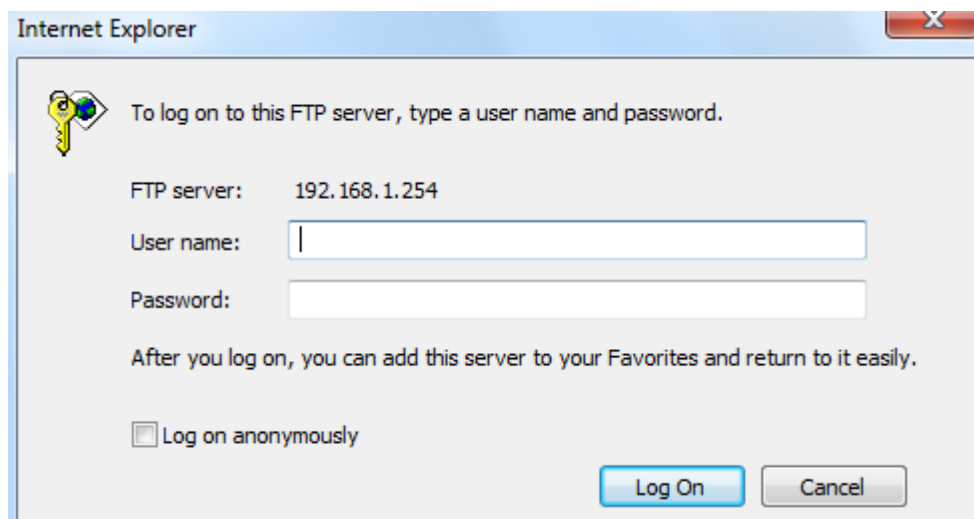
Take popular FTP tool of FlashFXP for example:

- 1) Open FlashFXP
- 2) Create ftp sites (LAN IP / WAN IP, 192.168.1.254, and set the account, port).
- 3) Connect to the ftp site.



2. Web FTP access

- 1) Enter <ftp://192.168.1.254> at the address bar of the web page.
- 2) Enter the account's username and password.



Maintenance

Maintenance gives users the ability to maintain the device as well as examine the connectivity of the WAN connections, including **User Management**, **Time Zone**, **Firmware & Configuration**, **System Restart**, and **Diagnostic Tool**.

User Management

User Management controls the Router Web GUI permission, FTP/SAMBA access to the specific account.

In factory setting, the default accounts are **admin/admin** and **user/user**. The default root account admin has been authorized to web access of router, Samba access, and FTP access. **user/user** is equipment with limited access (specified by advanced users with admin account) to router web, and FTP/SAMBA . A total of **6** other accounts can be created to grant access to the access of Samba and FTP and web page (need to be specified).

Note: Please go to [SAMBA & FTP Server](#) to re-activate FTP and SAMBA server to enable the changes to the FTP and SAMBA account set here.

❖ Administrator Account

admin/admin is the root account provided by our router.

Note: This username / password may vary by different Internet Service Providers.

Configuration

User Management

User Account

Index

1

Username

admin

New Password

•••••

Confirm Password

•••••

FTP Authority Setup

FTP Access

☒ Enable
 ☐ Disable

Permission

☒ Read/Write
 ☐ Read

SAMBA Authority Setup

SAMBA Access

☒ Enable
 ☐ Disable

Permission

☒ Read/Write
 ☐ Read

Please restart the Storage server after config changed

Save

Delete

User Account List

#	User Name	FTP Access	FTP Permission	SAMBA Access	SAMBA Permission
1	admin	Enable	Read/Write	Enable	Read/Write
2	user	Disable	Read	Disable	Read

User Setup

Index: The numeric account indicator. The maximum entry is up to 8 accounts.

User Name: Create account(s) user name for GUI management.

New Password: Enter a new password for this user account.

Confirmed Password: Re-enter the new password again; you must enter the password exactly the same as in the previous field

FTP Authority Setup

FTP Access: Enable to grant the user access to the FTP server.

Permission: Set the operation permission for the user, Read/Write or Read.

SAMBA Authority

SAMBA Access: Enable to grant the user access to the SAMBA server.

Permission: Set the operation permission for the user, Read/Write or Read.

Web GUI Permission

Login using the Administrator account, you will have the full accessibility to manage & control your BEC 6300VNL device and can also create user accounts for others to control some of the open configuration settings.

Permission: Set the operation permission for the user, Read/Write or Read.

Web GUI Permission

Guest Account: Enable to create this new guest account.

Interface Setup / Advanced Setup / Access Management Setup / Maintenances: Enable to grant this user access to these features.

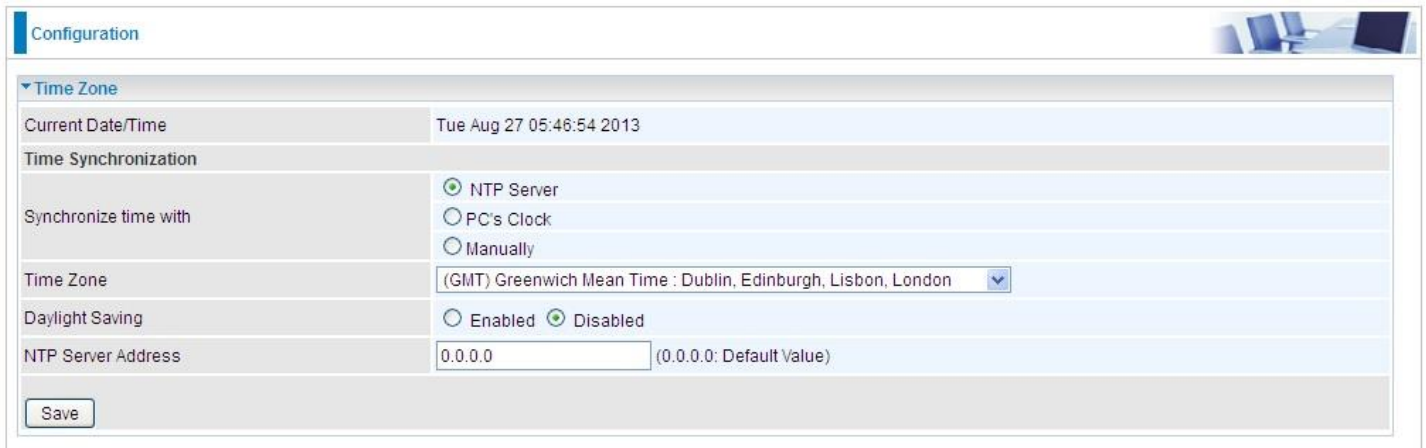
When someone accesses to the 6300VNL using this “user” account, he/she can only manage and configure the features that is pre-selected in **Web GUI Permission** for this account..

Click **Save** to apply the settings.

Time Zone

With default, 6300VNL does not contain the correct local time and date.

There are several options to setup, maintain, and configure current local time/date on the 6300VNL. If you plan to use **Time Schedule** feature, it is extremely important you set up the Time Zone correctly.



The screenshot shows the 'Configuration' page for the 6300VNL device, specifically the 'Time Zone' section. The 'Current Date/Time' is displayed as 'Tue Aug 27 05:46:54 2013'. Under 'Time Synchronization', the 'NTP Server' option is selected with a radio button. The 'Synchronize time with' section shows three options: 'NTP Server' (selected), 'PC's Clock', and 'Manually'. The 'Time Zone' is set to '(GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London' via a dropdown menu. The 'Daylight Saving' option is set to 'Disabled' with a radio button. The 'NTP Server Address' is set to '0.0.0.0' with a text box and a note '(0.0.0.0: Default Value)'. A 'Save' button is located at the bottom left of the configuration area.

Synchronize time with: Select the methods to synchronize the time.

- ▶ **NTP Server automatically:** To synchronize time with the SNTP servers to get the current time from an SNTP server outside your network then choose your local time zone. After a successful connection to the Internet, 6300VNL will retrieve the correct local time from the SNTP server this is specified.
- ▶ **PC's Clock:** To synchronize time with the PC's clock.
- ▶ **Manually:** Select this to enter the SNMP server IP address manually.

Time Zone: Choose the time zone of your location. This will set the time difference between your time zone and Greenwich Mean Time (GMT).

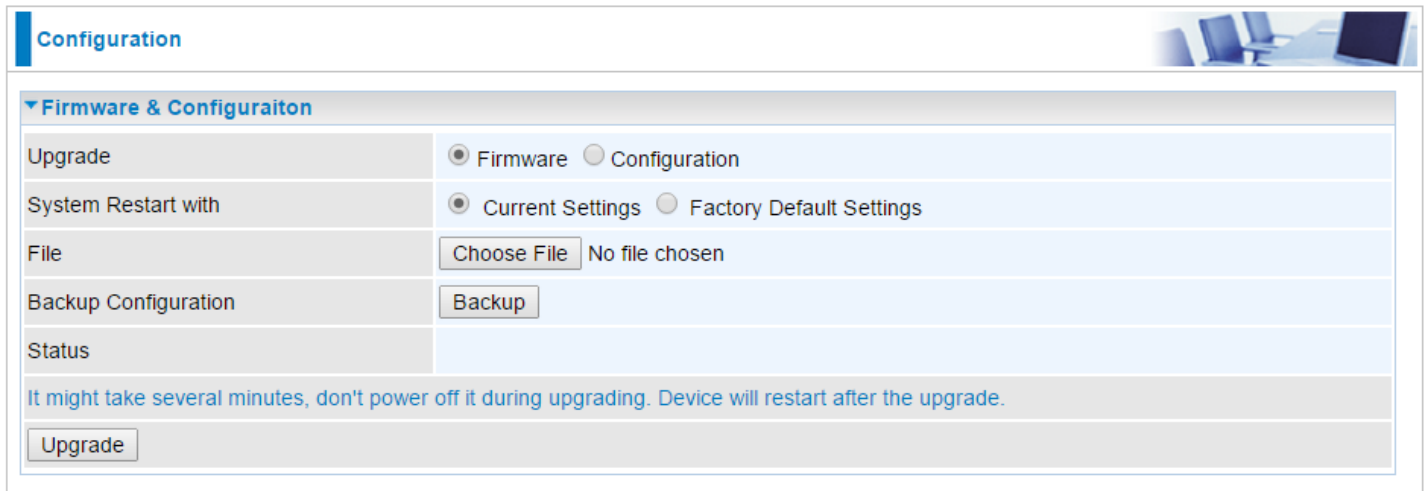
Daylight Saving: Select this option if you use daylight savings time.

NTP Server Address: Enter the IP address of your time server. Check with your ISP/network administrator if you are unsure of this information.

Firmware & Configuration

Firmware is the software that controls the hardware and provides all functionalities which are available in the GUI. This software may be improved and/or modified; your BEC 6300VNL provides an easy way to update the code to take advantage of the changes. .

To upgrade the firmware of BEC 6300VNL, you should download or copy the firmware to your local environment first. Press the “**Browse...**” button to specify the path of the firmware file. Then, click “**Upgrade**” to start upgrading. When the procedure is completed, BEC 6300VNL will reset automatically to make the new firmware work.



The screenshot shows the 'Configuration' tab in the user interface. Under the 'Firmware & Configuration' section, there are several options:

- Upgrade:** Radio buttons for 'Firmware' (selected) and 'Configuration'.
- System Restart with:** Radio buttons for 'Current Settings' (selected) and 'Factory Default Settings'.
- File:** A 'Choose File' button and the text 'No file chosen'.
- Backup Configuration:** A 'Backup' button.
- Status:** A text area.

Below these options, a message states: 'It might take several minutes, don't power off it during upgrading. Device will restart after the upgrade.' At the bottom of the section is an 'Upgrade' button.

Upgrade: Choose Firmware or Configuration you want to update.

System Restart with:

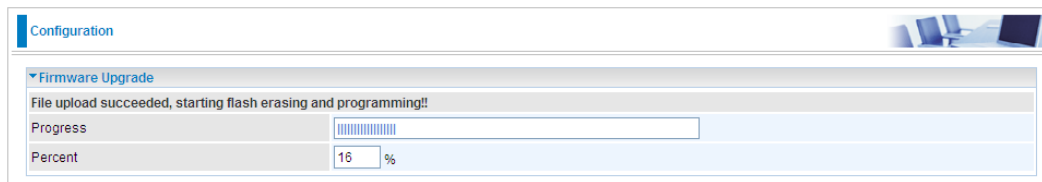
- ▶ **Current Settings:** Restart the device with the current settings automatically when finishing upgrading.
- ▶ **Factory Default Settings:** Restart the device with factory default settings automatically when finishing upgrading.

File: Type in the location of the file you want to upload in this field or click **Browse** to find it.

Browse: Click **Browse...** to find the configuration file or firmware file you want to upload. Remember that you must extract / decompress / unzip the .zip files before you can upload them.

Backup Configuration: Click **Backup** button to back up the current running configuration file and save it to your computer in the event that you need this configuration file to be restored back to your BEC 6300VNL device when making false configurations and want to restore to the original settings.

Upgrade: Click “**Upgrade**” to begin the upload process. This process may take up to two minutes.



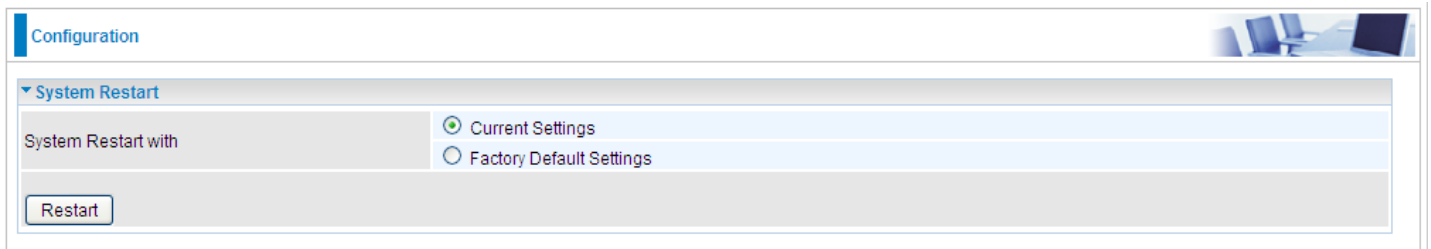
The screenshot shows the 'Firmware Upgrade' section during the process. It displays a message: 'File upload succeeded, starting flash erasing and programming!!'. Below this is a progress bar labeled 'Progress' and 'Percent'. The progress bar is partially filled, and the percentage shown is 16%.



DO NOT turn off / power off the device or interrupt the firmware upgrading while it is still in process. Improper operation could damage your BEC 6300VNL.

System Restart

Click **System Restart** with option **Current Settings** to reboot your router.



The screenshot shows a web interface for router configuration. At the top, there is a 'Configuration' tab. Below it, the 'System Restart' section is expanded. It contains two radio button options: 'Current Settings' (which is selected) and 'Factory Default Settings'. Below these options is a 'Restart' button.


If you wish to restart the router using the factory default settings (for example, after a firmware upgrade or if you have saved an incorrect configuration), select **Factory Default Settings** to restore to factory default settings.

You may also restore your router to factory settings by holding the small Reset pinhole button on the back of your router in about more than 6s seconds whilst the router is turned on.

Diagnostics Tool

The Diagnostic Test page shows the test results for the connectivity of the physical layer and protocol layer for both LAN and WAN sides.

3G/4G-LTE or 3G/4G-LTE USB


Configuration


▼ Diagnostic Tool

WAN Interface	3G/4G-LTE ▼
Testing Ethernet LAN Connection	N/A
Ping Primary DNS (221.6.4.66)	N/A
Ping www.google.com	N/A
Ping other IP Address <input type="radio"/> Yes <input checked="" type="radio"/> No	N/A

Start

Click START to begin to diagnose the connection.

Configuration


▼ Diagnostic Tool

WAN Interface	3G/4G-LTE ▼
Testing Ethernet LAN Connection	PASS
Ping Primary DNS (221.6.4.66)	PASS
Ping www.google.com	PASS
Ping other IP Address <input type="radio"/> Yes <input checked="" type="radio"/> No	Skipped

Start

EWAN

Configuration

Diagnostic Tool

WAN Interface	EWAN
Testing Ethernet LAN Connection	N/A
Ping Primary DNS (218.2.135.1)	N/A
Ping www.google.com	N/A
Ping other IP Address <input type="radio"/> Yes <input checked="" type="radio"/> No	N/A

Start

Click START to begin to diagnose the connection.

Configuration

Diagnostic Tool

WAN Interface	EWAN
Testing Ethernet LAN Connection	PASS
Ping Primary DNS (218.2.135.1)	PASS
Ping www.google.com	PASS
Ping other IP Address <input type="radio"/> Yes <input checked="" type="radio"/> No	Skipped

Start

CHAPTER 5: TROUBLESHOOTING

If your **BEC 6300VNL** is not functioning properly, you can refer to this chapter for simple troubleshooting before contacting your service provider support. This can save you time and effort but if symptoms persist, consult your service provider.

Problems with the Router

Problem	Suggested Action
None of the LEDs is on when you turn on the router	Check the connection between the router and the adapter. If the problem persists, most likely it is due to the malfunction of your hardware. Please contact your service provider or BEC for technical support.
You have forgotten your login username or password	Try the default username "admin" and password "admin". If this fails, you can restore your router to its factory settings by pressing the reset button on the device rear side.

Problem with LAN Interface

Problem	Suggested Action
Cannot PING any PC on LAN	Check the Ethernet LEDs on the front panel. The LED should be on for the port that has a PC connected. If it does not lit, check to see if the cable between your router and the PC is properly connected. Make sure you have first uninstalled your firewall program before troubleshooting.
	Verify that the IP address and the subnet mask are consistent for both the router and the workstations.

Recovery Procedures

Problem	Suggested Action
<ul style="list-style-type: none">- The front LEDs display incorrectly- Still cannot access to the router management interface after pressing the RESET button.- Software / Firmware upgrade failure	<ol style="list-style-type: none">1. Power on the router, once the Power LED lit red, please press this reset button using the end of paper clip or other small pointed object immediately.2. The router's emergency-reflash web interface will then be accessible via http://192.168.1.1 where you can upload a firmware image to restore the router to a functional state, Please note that the router will only respond with its web interface at this address (192.168.1.1), and will not respond to ping request from your PC or other telnet operations.

APPENDIX: PRODUCT SUPPORT & CONTACT

If you come across any problems please contact the dealer from where you have purchased the product.

Contact BEC @ <http://www.bectechnologies.net>

MAC OS is a registered Trademark of Apple Computer, Inc.

Windows 7/98, Windows NT, Windows 2000, Windows ME, Windows XP, and Windows Vista are registered Trademarks of Microsoft Corporation.

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ♦ Reorient or relocate the receiving antenna.
- ♦ Increase the separation between the equipment and receiver.
- ♦ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ♦ Consult the dealer or an experienced radio/TV technician for help.

FCC Caution:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference

(2) This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. . This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

Co-location statement

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.